Environment Canada Environnement Canada

Sediment Data

Manitoba

Données sur les sédiments

1986

INLAND WATERS DIRECTORATE
WATER RESOURCES BRANCH
WATER SURVEY OF CANADA
OTTAWA, CANADA, 1988

DIRECTION GÉNÉRALE DES EAUX INTÉRIEURES
DIRECTION DES RESSOURCES EN EAU
DIVISION DES RELEVÉS HYDROLOGIQUES DU CANADA
OTTAWA, CANADA, 1988

Published by authority of
the Minister of the Environment

Publié avec l'autorisation
du ministre de l'Environnement

© Minister of Supply and Services Canada 1988

Cat. No. En 36-410/3-1986

ISBN 0-662-55838-3

© Ministre des Approvisionnements et Services Canada 1988

N^{O} de cat. En 36-410/3-1986

ISBN 0-662-55838-3

PREFACE

This publication was prepared by personnel of the Sediment Survey Section, Water Survey of Canada Division, under the direction of the Director, Water Resources Branch, Department of the Environment, Ottawa.

The basic data were collected and compiled under the supervision of the Regional Chief of the Water Resources Branch at Winnipeg, Manitoba.

The co-operation received from provincial agencies and from other organizations is gratefully acknowledged.

PRÉFACE

Le groupe d'étude des sédiments de la Division des relevés hydrologiques du Canada, sous l'autorité du directeur des Ressources en eau du ministère de l'Environnement, à Ottawa, a préparé la présente publication.

Le chef régional de la Direction des ressources en eau, à Winnipeg (Manitoba), a supervisé la collecte et la compilation des données de base.

Nous remercions vivement les organismes provinciaux, ou autres, pour leur collaboration.

TABLE OF CONTENTS

	PAGE
Preface	iii
Introduction	iv
Scope of Publication	v
History and Objectives of Sediment Surveys in Canada	v
Publication of Surface Water and Sediment Data	v
Collection and Processing of Basic Data	vii
Equipment and Instrumentation	vii
Hydrometric Surveys	vii
Sediment Sampling Program	vii
Total Sediment Load	ix
Sediment Survey Laboratories	ix
Accuracy and Reliability of Field Data and Computed Results	x
Method of Tabulation of Sediment Data	xi
Co-operation and Acknowledgments	xiv
Microfiche	xiv
Definition of Terms	xv
Definition of Symbols	xvi
Equivalents of Measure	xviii
Revisions	xix
Sediment Data Stations in Alphabetical Order	1
Station Number Index	63
Alphabetical Index	65

TABLE DES MATIÈRES

	PAGE
Préface	iii
Introduction	iv
Portée de la publication	v
Historique et objectifs des études des sédiments au Canada	v
Publication des données sur les eaux de surface et les sédiments	v
Collecte et traitement des données de base	vii
Matériel	vii
Relevés hydrométriques	vii
Échantillonnage des sédiments des cours d'eau	vii
Débit solide total	ix
Laboratoires d'analyse	ix
Exactitude des données et des résultats	x
Présentation des tableaux de données sur les sédiments	xi
Coopération et remerciements	xiv
Microfiche	xiv
Définition des termes	xv
Définition des symboles	xvi
Équivalences des unités de mesure	xviii
Révisions	xix
Stations de relevé des sédiments par ordre alphabétique	1
Index numérique des stations	63
Index alphabétique	65

INTRODUCTION

The Water Resources Branch of the Department of the Environment herein presents for the 1986 calendar year the annual suspended sediment data and a historical data summary for the sediment survey investigations conducted in Manitoba by the Water Survey of Canada.

Data on the character and quantity of fluvial sediments provided by sediment survey investigations are intended for use in studies of water quality, environmental impacts, river processes and behaviour, and engineering design.

General introductory information on the sediment survey is included in this publication. Similar information for the associated hydrometric survey is given in the regular publications containing surface water data.

Details on individual stations and related records, as well as recent data that have not yet been published, may be obtained upon application to:

Regional Chief,
Water Resources Branch,
Department of the Environment,
521 Federal Building,
269 Main Street,
Winnipeg, Manitoba.
R3C 1B2

or to the Director, Water Resources Branch, Department of the Environment, Ottawa, Ontario, K1A 0H3.

INTRODUCTION

Dans la présente publication de la Direction des ressources en eau du ministère de l'Environnement, on trouvera les données annuelles sur les sédiments en suspension pour 1986 et le sommaire des données chronologiques sur les sédiments, à la suite des études effectuées dans les cours d'eau du Manitoba par la Division des relevés hydrologiques du Canada.

Les données recueillies sur la nature et l'importance de la charge solide dans les cours d'eau doivent servir aux études portant sur la qualité des eaux, les incidences environnementales, les processus fluviaux, le comportement des cours d'eau et la conception de projets.

La presente publication contient des renseignements généraux préliminaires sur les études des sédiments. Des renseignements semblables sur les études hydrométriques connexes sont contenus dans les publications régulières présentant des données sur les eaux de surface.

On peut obtenir des renseignements supplémentaires sur les stations et les relevés, ainsi que des données récentes non encore publiées, en s'adressant au:

Chef régional
Direction des ressources en eau
Ministère de l'Environnement
521, Édifice fédéral
269, rue Main
Winnipeg (Manitoba)
R3C 1B2

ou au directeur des Ressources en eau, ministère de l'Environnement, Ottawa (Ontario), K1A 0H3.

SCOPE OF PUBLICATION

Descriptive information about sediment stations is given. This refers to the Location, Latitude and Longitude, Drainage Area and whether the flow is Natural Flow or Regulated Flow (the year that regulation began is given, if known), Type of Gauge and the Total Suspended Sediment Load in Tonnes for the Period of Record is also included. International Gauging Stations are identified and the names of co-operating agencies who supply data are given; unusual conditions at the sediment station that could affect the data results are explained under "Remarks".

This publication contains data on streamflow, instantaneous suspended sediment concentration; daily mean suspended sediment concentration; daily suspended sediment loads; dissolved solids concentration; load summary; particle-size distribution of suspended sediment in percent sand, silt and clay; bed load and bed material; water temperature when samples were collected; type of sampler and the single sampling vertical location.

A historical sediment data summary includes such information as Sampled Concentration Maximum and Minimum; Suspended Sediment Load Maximum Daily and the Total for Period. The Period of Record and the Type of Operation for each year of data are also given. A Summary for the Months of record gives the Period of Record Mean, the Mean for Period of Record and the Standard Error of Mean as a percent.

HISTORY AND OBJECTIVES OF SEDIMENT SURVEYS IN CANADA

In Canada, investigations of sediment transported by streams were first undertaken by individual organizations or agencies in 1948, to meet the needs of federal and provincial agencies for assessment of particular projects. Although the investigations were extended to meet expanding needs after 1948, it was not until 1961 that a systematic survey was undertaken by the Water Resources Branch.

The sediment survey program has the following objectives:

(1) Collection and provision of data related to sediment transport in Canadian rivers for applications in water resource engineering, water quality and environmental studies.

(2) Provision of information and advice related to sediment transport.

(3) Assessment, improvement and standardization of equipment and techniques used in Canada's sediment survey program.

PUBLICATION OF SURFACE WATER AND SEDIMENT DATA

Sediment data have been published in a variety of formats since the beginning of the Sediment Survey Program.

PORTÉE DE LA PUBLICATION

Des données descriptives sont présentées sur les stations d'étude des sédiments. Elles concernent leur emplacement, leurs latitude et longitude, leur bassin versant, la nature de débit (naturel ou régularisé, avec indication, le cas échéant, de l'année où la régularisation a commencé, si elle est connue), le type d'instrument de mesure employé et le débit total des sédiments en suspension (en tonnes) pour la période de relevé. Les stations internationales de jaugeage sont indiquées, ainsi que le nom des organismes qui fournissent les données. Des explications concernant des conditions exceptionnelles qui ont pu influer sur les résultats sont présentées dans la partie «Remarques».

Cette publication renferme des données sur le débit des cours d'eau, les concentrations instantanées de sédiments en suspension, les concentrations journalières moyennes de sédiments en suspension, les débits journaliers de sédiments en suspension, les concentrations de matières dissoutes, les débits solides totaux (résumés), la granulométrie des sédiments en suspension exprimée en pourcentage de sable, de limon et d'argile, le charriage et les matériaux du lit, la température de l'eau au moment de l'échantillonnage, le type d'échantillonneur employé et l'emplacement des verticales de prélèvement d'échantillons uniques.

Un résumé des données historiques sur les sédiments est inclus. On y trouve divers renseignements comme les concentrations maximale et minimale mesurées, le débit journalier maximal des sédiments en suspension et le total pour la période. La période de relevé et le type d'exploitation des stations sont indiqués pour chaque année. Dans un résumé pour les mois de relevé, on donne la moyenne pour chaque période et pour l'ensemble des périodes de relevé ainsi que l'erreur-type de la moyenne, en pourcentage.

HISTORIQUE ET OBJECTIFS DES ÉTUDES DES SÉDIMENTS AU CANADA

Au Canada, les études dans ce domaine ont débuté en 1948 en réponse aux besoins exprimés par certains organismes fédéraux et provinciaux pour l'évaluation de projets donnés et étaient le fait d'organismes privés. Bien que les études se soient poursuivies après 1948 pour satisfaire aux besoins accrus, ce n'est qu'en 1961 que la Direction des ressources en eau les a entreprises de façon systématique.

Les buts de ces études sont de:

(1) réunir et produire des données sur les transports solides dans les cours d'eau canadiens, données dont on peut avoir besoin pour des études concernant l'environnement, la qualité des eaux et la conception de projets portant sur les ressources en eau.

(2) produire des informations concernant les transports solides.

(3) évaluer, améliorer et uniformiser le matériel et les techniques employés dans le programme d'étude des sédiments au Canada.

PUBLICATION DES DONNÉES SUR LES EAUX DE SURFACE ET LES SÉDIMENTS

Depuis le début du programme d'étude des sédiments, la présentation des données a varié.

During the years 1948 to 1960, some sediment data were collected for several Prairie rivers to meet the needs of particular projects. The first Water Resources Paper series containing sediment data incorporated a selection of these data and also data for part of the year ending September 30, 1961, at stations established for the continuing program. The second issue was a biennial publication covering only the continuing program for the 1962 and 1963 water years. All subsequent editions titled *Sediment Data Canadian Rivers* have been published annually. The sediment data since 1978 have been presented entirely in the International System of Units (SI).

Commencing with 1984, the *Sediment Data* were published in a new format wherein Canada was divided into eight regions. The provinces each represent a separate region except for New Brunswick, Newfoundland, Nova Scotia and Prince Edward Island, which together form the Atlantic Provinces region, and the Yukon and Northwest Territories which make up another. The publications are identified by the province or territories covered and the year in which the data were collected. These data are published annually on a calendar-year basis and the stations are listed alphabetically.

A new edition, *Miscellaneous Sediment Data 1966 to 1983*, was published. It contains a tabulation of locations in Canada where miscellaneous data were collected but not previously published by the Water Survey of Canada. The following data are included in this one time publication: date and time of sample collection; instantaneous discharge or daily mean discharge; sampling vertical; instantaneous concentration; dissolved solids for some samples; type of sampler used; particle size distribution of suspended sediment in percent sand, silt and clay for some depth integrated samples and/or measurements, and some point integrated measurements; particle size distribution of bed load; particle size distribution of bed material; and the water temperature at time of sampling for some samples is also given where available.

The first edition of a *Sediment Data Reference Index* was published for data to 1972. It contains a tabulation of locations in Canada where sediment data were collected by the Water Survey of Canada. The index has been subdivided alphabetically by province or territory, with sediment survey stations also listed alphabetically. Commencing with the 1978 publication, data are presented in the International System of Units (SI) and will continue to be published biennially. The latest edition supersedes all previous editions because it contains any corrections or additions since the last publication.

The first edition of a new publication series titled *Historical Sediment Data Summary for Canadian Rivers* was produced for data to 1974. This publication contains a summary of historical monthly and annual mean suspended sediment load, and annual extremes of daily suspended sediment concentration and loads and total annual suspended load. Commencing with the 1978 publication, data are presented entirely in the International System of Units (SI). This publication has been discontinued, as much of the information is now included in the new annual *Sediment Data* publication.

De 1948 à 1960, on a recueilli des données pour plusieurs cours d'eau des Prairies en prévision de la réalisation de certains projets. La première publication contenant des données sur les sédiments a paru dans la série intitulée *Water Resources Paper*; elle présentait un choix de ces données ainsi que des données recueillies en 1961 avant le 30 septembre à des stations établies pour la réalisation du programme permanent. La deuxième publication a porté sur les données recueillies dans le cadre du programme au cours des années hydrologiques 1962 et 1963. Par la suite, les données ont été publiées annuellement sous le titre *Données sur les sédiments - rivières canadiennes*. Depuis 1978, les données sont exprimées en unités du Système international (SI).

En 1984, la présentation des *Données sur les sédiments* a été modifiée. Le Canada a été divisé en huit régions, une région pour chaque province, sauf le Nouveau-Brunswick, Terre-Neuve, la Nouvelle-Écosse et l'Île-du-Prince-Édouard qui, ensemble, forment la région des provinces de l'Atlantique, et les Territoires du Yukon et du Nord-Ouest, qui forment une autre région. Les publications sont nommées selon la région couverte et l'année des données (année civile). Ces publications sont annuelles. Les stations y sont présentées par ordre alphabétique.

Une édition récente intitulée *Données diverses sur les sédiments, 1966 à 1983* vient de paraître. On y présente sous forme de tableau les emplacements où des données diverses non encore publiées ont été recueillies au Canada par la Division des relevés hydrologiques. Cette première édition comprend des données telles que : la date et la durée de l'échantillonnage; le débit instantané ou débit journalier moyen; la verticale d'échantillonnage; les concentrations instantanées; les concentrations de matières solides en solution pour certains échantillons; le type d'échantillonneur employé; la granulométrie des sédiments en suspension en pourcentage de sable, de limon et d'argile, dans le cas de mesures avec intégration selon la profondeur ou d'échantillons intégrés sur toute la profondeur, et dans le cas de mesures par la méthode ponctuelle; la granulométrie du charriage; la granulométrie des matériaux du lit; la température de l'eau lors du prélèvement d'échantillons, lorsque celle-ci est connue.

Un *Index de référence des données sur les sédiments* est publié. La première édition portait sur les données disponibles jusqu'en 1972. Les emplacements où des données sur les sédiments ont été recueillies au Canada par la Division des relevés hydrologiques y sont présentés sous forme de tableau. L'*Index* est subdivisé selon l'ordre alphabétique par province ou territoire, et les stations de mesure des sédiments sont classées par ordre alphabétique. À partir de 1978, les données sont exprimées en unités du Système international (SI). L'*Index* est publié tous les deux ans; l'édition la plus récente annule toutes les éditions antérieures, car elle renferme toutes les corrections et mises à jour effectuées depuis la dernière parution.

Une autre série de publications a porté le titre *Sommaire chronologique des données sur les sédiments de rivières canadiennes*. La première édition renfermait les données disponibles jusqu'en 1974. Cette série présentait un résumé donnant les moyennes mensuelles et annuelles historiques du débit des sédiments en suspension, les valeurs annuelles extrêmes de la concentration journalière et du débit journalier des sédiments en suspension et le débit annuel total des sédiments en suspension. À partir de 1978, les données ont été présentées en unités du Système international (SI). Cette série a été abandonnée, car une bonne partie de l'information est maintenant contenue dans la nouvelle publication annuelle intitulée *Données sur les sédiments*.

COLLECTION AND PROCESSING OF BASIC DATA

1. *Equipment and Instrumentation*

The sediment survey program of the Water Resources Branch is conducted in cross sections on rivers selected specifically for the sediment survey or for the hydrometric survey. Certain cross sections are located at traffic bridges, while others are equipped with cableways, or automatic pump samplers.

The following sediment samplers have been used in the sediment survey program:

(a) Depth-integrating suspended sediment wading-type hand sampler, USDH-48, used on small streams or during winter periods.

(b) Depth-integrating suspended sediment sampler, USDH-59, used as a handline suspension for small and medium size streams.

(c) Depth-integrating suspended sediment samplers, USD-49, and USD-74, used on a reel suspension for medium and large streams whose depths are less than five metres.

(d) Point-integrating suspended sediment samplers, USP-61, USP-61-A1, USP-63, and USP-72, used for point-integrating sampling, or depth-integrating sampling if the depth is over five metres, or in a cross section with velocities up to two metres per second.

(e) Automatic pump sampler is an automatic pumping system permitting unattended collecting and bottling of individual water samples pumped from a fixed point in a stream. This sampler is normally installed at isolated locations where otherwise no data would be available during ice break-up or peak periods.

(f) Bed material sampler, USBM-54, used on large or deep streams or on those streams with hard-packed streambeds.

(g) Bed material sampler, USBMH-60, used on some large or deep streams or on those streams with soft-packed streambeds.

(h) Bed material sampler, USBMH-53, used on some small or shallow streams.

(i) Lane bed material sampler, a drag-type sampler used on small streams or those with soft streambeds.

2. *Hydrometric Surveys*

The hydrometric survey includes the standard procedures for observations of water levels, streamflow measurements, water surface slope determinations if required, and observations of water temperature. The streamflow measurements are made in conjunction with the sediment load measurements and conform to the accepted standards of the regular hydrometric survey.

3. *Sediment Sampling Program*

The following is a summary of the elements associated with the Sediment Sampling Program:

(a) Periodic measurement of suspended sediment load by the

COLLECTE ET TRAITEMENT DES DONNÉES DE BASE

1. *Matériel*

L'étude des sédiments réalisée par la Direction des ressources en eau porte sur des sections transversales de cours d'eau choisis spécialement à cette fin ou pour les relevés hydrométriques. Certaines sections sont situées sous un pont, d'autres sont accessibles par téléphérique, ou sont étudiées à l'aide d'un échantillonneur sous pression.

On a utilisé les échantillonneurs suivants:

(a) L'échantillonneur intégrateur selon la profondeur, type simple, USDH-48, employé dans les cours d'eau peu profonds ou en hiver;

(b) L'échantillonneur intégrateur selon la profondeur USDH-59, utilisé comme une ligne dans les cours d'eau petits et moyens;

(c) Les échantillonneurs intégrateurs selon la profondeur USD-49 et USD-74 fixés au bout d'une corde s'enroulant autour d'un moulinet et employés dans les cours d'eau gros ou moyens dont la profondeur est inférieure à cinq mètres;

(d) Les échantillonneurs intégrateurs USP-61, USP-61-A1, USP-63 et USP-72, employés ponctuellement ou sur toute la verticale, et utilisés lorsque la profondeur est supérieure à cinq mètres ou dans les sections transversales qui connaissent un débit qui atteint 2 m/s.

(e) Un échantillonneur automatique permettant le prélèvement en bouteilles, sans surveillance, d'échantillons uniques d'eau obtenus à l'aide d'une pompe en un point précis d'un cours d'eau; il est ordinairement installé dans un endroit isolé où aucune donnée ne pourrait être obtenue autrement au cours de la débâcle ou des périodes de débit de pointe;

(f) L'échantillonneur USBM-54 employé pour le prélèvement d'échantillons des matériaux du lit dans les cours d'eau importants ou profonds ou dans les cours d'eau dont le fond est dur;

(g) L'échantillonneur USBMH-60 employé pour le prélèvement d'échantillons des matériaux du lit dans certains cours d'eau importants ou profonds, ou dans les cours d'eau dont le fond est meuble;

(h) L'échantillonneur USBMH-53 employé pour le prélèvement d'échantillons des matériaux du lit dans certains cours d'eau petits ou peu profonds;

(i) La drague employée pour le prélèvement d'échantillons des matériaux du lit dans de petits cours d'eau ou dans des cours d'eau dont le fond est meuble.

2. *Relevés hydrométriques*

Le relevé hydrométrique comprend, entre autres, l'observation de la hauteur des eaux, la mesure du débit de l'eau, la détermination de la pente de la ligne d'eau, si nécessaire, ainsi que l'observation de la température de l'eau. Les mesures du débit de l'eau et du débit des sédiments se font conjointement, suivant les méthodes acceptées.

3. *Echantillonnage des sédiments des cours d'eau*

L'échantillonnage comporte, en gros, les éléments suivants:

(a) La mesure périodique du débit des sédiments en suspension par la méthode d'intégration sur toute la profondeur

depth-integrating method for determining the average suspended sediment concentration in the cross section.

(b) Single suspended sediment samples at a selected vertical for determining the sediment concentration for the days when suspended sediment load measurements are not taken.

(c) Limited measurement of suspended sediment load by the point-integrating method for checking depth-integrated measurements and for determining particle-size distribution in the cross section.

(d) Sampling of bed material for determining particle-size distribution.

(e) Periodic measurement of bed load.

The following is a brief explanation of the elements listed above:

(a) *Suspended Sediment Load by Depth-Integrating Method*: Measurements are made by the depth-integrating method to determine the suspended sediment load in the entire cross section of a stream, the average suspended sediment concentration in the cross section, and the size distribution of the sediment particles. It is known that the concentration of suspended sediment tends to increase from the water surface to the streambed and could vary from streambank to streambank.

When making suspended sediment equal-discharge-increment (EDI) measurements, the stream cross section is divided into at least five equal-flow panels and a representative suspended sediment sample is collected from each portion. For each panel of the cross section, the suspended sediment load (r) may then be computed by multiplying the flow (q) by the suspended sediment concentration (c):

$$r = q\ c$$

The suspended sediment load (R) for the cross section may be computed by adding the sediment loads for the five equal-flow panels:

$$R = r\ n = q_1c_1 + q_2c_2 + \ldots + q_nc_n$$

The depth-integrating method of sampling is used to measure the suspended sediment concentration. This method is based on the premise that the sampler fills at a rate proportional to the velocity of the approaching flow, and that by traversing the depth of a stream at a uniform speed, the sampler will receive a portion of water sediment mixture at every point in the vertical.

(b) *Single Suspended Sediment Samples at a Selected Vertical*: Single suspended sediment samples, consisting of two bottles each, are collected routinely using the depth or point-integrating samplers at a permanently fixed vertical in a cross section. During periods of very heavy sediment concentration, two or three single sediment samples may be taken per day, while during periods of low concentration, one single sediment sample may only be taken every few days. During extremely low flow periods, the sampling may be limited to one single sample in several weeks or months.

(c) *Suspended Sediment Load by Point-Integrating Method*: A limited number of suspended sediment load measurements are made by the point-integrating method. These measurements are included in the program (a) to check by comparison the "measured" sediment loads obtained by the depth-integrating method with the suspended sediment loads by the point-integrating method and (b) to obtain samples from which to determine particle-size distribution

pour la détermination de la concentration moyenne dans une section transversale;

(b) Le prélèvement d'échantillons uniques des sédiments en suspension selon une verticale choisie, afin de déterminer la concentration des sédiments les journées où le débit des sédiments en suspension n'est pas mesuré;

(c) Un nombre restreint de mesures du débit des sédiments en suspension avec intégration en un point précis d'un cours d'eau, afin de vérifier les résultats des mesures avec intégration selon la profondeur et afin de déterminer la granulométrie des particules de sédiments dans une section transversale d'un cours d'eau;

(d) L'échantillonnage des matériaux du lit afin d'en déterminer la granulométrie;

(e) La mesure périodique du charriage.

Voici une brève description des éléments susmentionnés.

(a) *Mesure du débit des sédiments en suspension par intégration selon la profondeur*: La méthode permet de déterminer le débit des sédiments en suspension traversant toute une section transversale d'un cours d'eau, la concentration moyenne des sédiments en suspension dans la section transversale et la granulométrie des sédiments en suspension. C'est un fait connu que la concentration des sédiments en suspension augmente généralement avec la profondeur et qu'elle peut varier d'une rive à l'autre d'un cours d'eau.

Avec la méthode d'incréments de débits égaux (IDE), la mesure du débit des sédiments en suspension se fait en divisant une section transversale d'un cours d'eau en au moins cinq tranches où le débit est égal et en prélevant un échantillon représentatif dans chacune d'elles. Le débit des sédiments en suspension (r) pour chaque tranche se calcule en multipliant le débit (q) par la concentration des sédiments en suspension (c):

$$r = q\ c$$

Le débit des sédiments en suspension (R) pour la section transversale est la somme des débits des sédiments des cinq tranches:

$$R = r\ n = q_1c_1 + q_2c_2 + \ldots + q_nc_n$$

La méthode par intégration sur toute la profondeur est employée pour mesurer la concentration des sédiments en suspension. Elle suppose que l'échantillonneur se remplit à un rythme proportionnel au débit de l'eau et qu'en étant déplacé à une vitesse uniforme sur toute la verticale, il reçoit une partie du mélange eau-sédiments à tous les points de celle-ci.

(b) *Prélèvement d'échantillons uniques de sédiments en suspension sur une verticale choisie*: De tels échantillons, constitués chacun de deux bouteilles, sont prélevés régulièrement à l'aide d'appareils intégrateurs, selon la profondeur ou ponctuels, sur une verticale permanente d'une section transversale. Lorsque la concentration des sédiments est très forte, deux ou trois échantillonnages peuvent être effectués chaque jour, alors qu'un seul échantillon peut être prélevé à quelques jours d'intervalle lorsqu'elle est faible. Au cours des périodes où le débit est extrêmement faible, l'échantillonnage peut être limité à un échantillon toutes les quelques semaine ou tous les quelques mois.

(c) *Mesure du débit des sédiments en suspension par la méthode ponctuelle*: Un nombre limité de mesures du débit des sédiments en suspension sont faites avec cette méthode. On y a recours a) pour vérifier les valeurs du débit mesurées au moyen de la méthode précédente et b) pour obtenir des échantillons en vue de déterminer la granulométrie des sédiments en divers points de la

at different points in the cross section. The point-integrating sediment loads are computed by graphical methods.

The relationship between the suspended sediment concentration of the single vertical samples and the average concentration in the cross section determined from the suspended sediment load measurements is established for some stations. Using this relationship, the sediment concentrations of the single vertical samples are adjusted to reflect the average suspended sediment concentration in the cross section. These average sediment concentrations in the cross sections are plotted, and a smooth curve is drawn through the points to obtain a concentration graph. This graph represents the average suspended sediment concentration for the period of record. The daily mean concentrations are determined by automated procedures using a digitizer interfaced with a Digital minicomputer.

The daily suspended sediment loads are computed on the basis of stream discharges and the collected suspended sediment concentrations. The daily suspended sediment loads are expressed in tonnes per day and are obtained by multiplying the daily mean sediment concentration (mg/L), by the daily mean discharge (m^3/s), and the conversion factor, 0.0864.

(d) *Bed Material Sampling*: In a cross section, bed material samples are usually taken in the same sampling verticals as the suspended sediment samples. Often, additional bed material samples are collected at the water edge, the extreme water level or at other points in the cross section. The total number of bed material samples taken in a cross section usually varies between five and nine.

(e) *Bed Load Measurement*: There are several methods available for measurement of bed load (volumetric method, measurement by samplers, method of tracers, method of constricted cross section, study of sound waves, etc.). The measurement methods should be selected in accordance with river regime.

4. *Total Sediment Load*

Sediment transport may be divided into two categories: sediment maintained in suspension in the stream (suspended load), and sediment being carried along the streambed (bed load). To measure the total sediment load, each of these must be measured separately and then totalled. The total sediment load was not computed for this publication.

5. *Sediment Survey Laboratories*

The Water Resources Branch maintain sediment survey laboratories in New Westminster, British Columbia; Regina, Saskatchewan; Guelph, Ontario; and Moncton, New Brunswick. The laboratories are equipped to perform the following analyses:

(a) determination of sediment concentration by (1) filtration method, (2) evaporation method and (3) determination of total dissolved solids by evaporation method.
(b) particle-size distribution analysis by (1) bottom withdrawal tube method, (2) sieving and (3) hydrometer method.

Determination of the sediment concentration by the evaporation method is carried out by evaporating the water from the settled sediment sample, with the results being corrected for dissolved solids. The quantity of dissolved solids is determined by evaporating a portion of the decanted water of a sample. In the filtration method, the suspended sediment concentration of water samples is determined by utilizing Gooch crucibles with a Reeve Angel 934AH filter and a Millipore AP20 prefilter and a vacuum system.

section transversale. Cette méthode fait appel à des graphiques pour le calcul du débit des sédiments.

Le rapport entre la concentration des sédiments en suspension dans les échantillons prélevés sur une seule verticale et la concentration moyenne dans la section transversale, telle que déterminée à partir des mesures du débit des sédiments en suspension, est établi pour quelques stations. Il permet de corriger les concentrations mesurées à une seule verticale de manière à donner la concentration moyenne dans la section transversale. Les concentrations moyennes ainsi déterminées sont reportées sur un graphique, et une courbe lisse passant par les points marqués est tracée. Le graphique obtenu représente la concentration moyenne des sédiments en suspension pour la période de relevé. Les concentrations moyennes quotidiennes sont déterminées automatiquement à l'aide d'un convertisseur analogique-numérique relié à un mini-ordinateur numérique.

Les valeurs journalières du débit des sédiments en suspension sont calculées à partir du débit du cours d'eau et des concentrations des sédiments en suspension recueillis. Elles sont exprimées en tonnes par jour. On les détermine en multipliant la concentration moyenne journalière des sédiments (mg/L) par le débit moyen journalier (m^3/s) et par un facteur de conversion approprié, 0.0864.

(d) *Échantillonnage des matériaux du lit*: Dans une section transversale, les échantillons des matériaux du lit sont ordinairement prélevés aux mêmes verticales que ceux des sédiments en suspension. Souvent, des échantillons supplémentaires sont pris près des rives, là où le niveau d'eau est extrême et à d'autres points de la section transversale. Leur nombre total pour une section donnée varie ordinairement entre cinq et neuf.

(e) *Mesure du charriage*: La mesure peut se faire par plusieurs méthodes (méthode volumétrique, mesure à l'aide d'échantillonneurs, méthode des traceurs, méthode de la section transversale rétrécie, étude des ondes sonores, etc.). Le choix se fondera sur la nature du régime du cours d'eau.

4. *Débit solide total*

Il y a deux catégories de sédiments: les sédiments maintenus en suspension au sein de l'eau (sédiments en suspension), et les sédiments charriés sur le lit d'un cours d'eau (charriage de fond). Les deux types de sédiments doivent être mesurés séparément et leurs valeurs additionnées si on veut mesurer le débit total des sédiments. Toutefois, on ne l'a pas calculé aux fins de la présente publication.

5. *Laboratoires d'analyse*

La Direction des ressources en eau possède des laboratoires d'analyse des sédiments à New Westminster (Colombie-Britannique), Regina (Saskatchewan), Guelph (Ontario) et Moncton (Nouveau-Brunswick). Les laboratoires disposent des appareils nécessaires pour effectuer les analyses suivantes:

(a) la détermination de la concentration des sédiments par (1) filtration, (2) évaporation, et (3) détermination des matières dissoutes totales par évaporation.
(b) l'analyse granulométrique (1) par extraction des sédiments déposés dans un tube, (2) par l'emploi de tamis et (3) par l'utilisation d'un hydromètre.

La méthode par évaporation consiste à faire évaporer l'eau d'un échantillon de sédiments décanté et à corriger les résultats pour tenir compte des matières dissoutes. La quantité de celles-ci est déterminée en faisant évaporer une partie de l'eau de l'échantillon décanté. Dans la méthode par filtration, on utilise sous vide des creusets de Gooch munis d'un filtre Reeve Angel 934AH et d'un préfiltre Millipore AP20.

Particle-size analysis was carried out for some suspended sediment samples having gross weights in the range of 0.15 to 5 g using the Bottom Withdrawal Tube method. The particle-size distribution of the Bottom Withdrawal Tube method ranges from 0.002 to 1.000 mm. The Sieve analysis method may be used for samples with a large amount of material coarser than 0.062 mm.

The particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)
Clay	0.000 24 - 0.004
Silt	0.004 - 0.062
Sand	0.062 - 2.0
Gravel	2.0 - 64.0

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analyzed in distilled water. Chemical dispersion is not used for native-water analysis.

6. *Accuracy and Reliability of Field Data and Computed Results*

The overall accuracy and degree of reliability of the sediment data is dependent upon many factors. Some of the more important of these are:

(a) accuracy and reliability of streamflow records;
(b) regime of the river;
(c) type of sampling equipment used to collect the suspended sediment samples;
(d) frequency of suspended sediment discharge measurements;
(e) frequency of individual sampling;
(f) quality of the relationship between the average suspended sediment concentration in the cross section and the concentration of the individual samples;
(g) frequency and method of bed material sampling;
(h) frequency and method of bed load measurements;
(i) accuracy and reliability of the laboratory analysis;
(j) selected methods of computation of the suspended sediment discharge;
(k) interpretation and extrapolation of sediment records.

An assessment of the quality of the records can be made by an examination of the occurrence of the symbol (S) on the daily mean concentrations.

In general, data collected during open-water periods are more reliable than those collected during periods of ice conditions or those records obtained by estimation. Further, water level data collected utilizing a water-stage recorder are more reliable and accurate than those using a manual gauge only, especially for small or flashy streams.

Une analyse granulométrique a été effectuée pour certains échantillons de sédiments en suspension ayant un poids brut dans l'intervalle de 0.15 à 5 g par la méthode de la burette (extraction des sédiments déposés, à divers intervalles). La distribution de la taille des particules déterminée par cette méthode varie de 0.002 à 1.000 mm. La méthode de tamisage peut être employée pour les échantillons ayant une forte quantité de particules de taille supérieure à 0.062 mm.

La classification granulométrique qui est utilisée dans la présente publication est conforme aux recommandations faites par l'*American Geophysical Union Subcommittee on Sediment Terminology*. La classification est la suivante:

Classification	Taille (mm)
Argile	0.000 24 - 0.004
Limon	0.004 - 0.062
Sable	0.062 - 2.0
Gravier	2.0 - 64.0

La répartition granulométrique qui est fournie dans cette publication, n'est pas obligatoirement représentative de toutes les particules qui sont transportées par un cours d'eau donné. La plupart des matières organiques sont extraites de l'échantillon qui est ensuite soumis à une dispersion mécanique et chimique avant d'être analysé dans de l'eau distillée. La dispersion chimique ne sert pas à l'analyse de l'eau naturelle.

6. *Exactitude des données et des résultats*

L'exactitude des données sur les sédiments dépend de nombreux facteurs. On peut citer, parmi les plus importants:

(a) l'exactitude des données sur les débits;
(b) le régime d'un cours d'eau;
(c) le type d'appareil d'échantillonnage utilisé pour prélever les échantillons de sédiments en suspension;
(d) la fréquence des mesures du débit des sédiments en suspension;
(e) la fréquence des échantillonnages isolés;
(f) la qualité du rapport entre la concentration moyenne des sédiments en suspension dans une section transversale et la concentration des échantillons isolés;
(g) la fréquence des échantillonnages des matériaux de fond et la méthode utilisée;
(h) la fréquence des mesures du charriage de fond et la méthode utilisée;
(i) l'exactitude des analyses de laboratoire;
(j) les méthodes de calcul du débit des sédiments en suspension;
(k) l'interprétation et l'extrapolation des données sur les sédiments.

La qualité des données peut être évaluée d'après la fréquence d'utilisation du symbole (S), avec les données sur la concentration journalière moyenne.

En général, les données recueillies au cours des périodes d'eau libre sont plus sûres que celles qui sont obtenues au cours des périodes de glaces ou par estimation. De plus, les données sur le niveau des eaux qui sont mesurées à l'aide d'un limnigraphe sont plus certaines et plus exactes que celles qui sont mesurées à l'aide d'une jauge manuelle seulement, surtout dans le cas des petits cours d'eau ou des cours d'eau à crues très rapides.

METHOD OF TABULATION OF SEDIMENT DATA

For stations where the suspended sediment load was obtained, the following data are given where available:

1. The table of *Suspended Sediment Load* includes the daily mean discharge in cubic metres per second, the daily mean concentration in milligrams per litre, and the daily suspended sediment load in tonnes per day. The total monthly discharge and total monthly sediment load are also given for each month of record.

For stations where the sediment load in tonnes per day are produced for complete or partial years, the *Total Suspended Load* for the period is given in the descriptive information.

For stations where only suspended sediment concentrations are obtained, the table of *Suspended Sediment Load* will not be given.

Additional descriptive information about the sediment station is also given and will indicate the following, where applicable.

Location – the latitude and longitude co-ordinates of the location of the gauge are given. For stations where the gauge is located an appreciable distance from the discharge measurement section, these co-ordinates give the location of the discharge measurement section.

Drainage area – refers to that area enclosed by a topographic divide such that direct surface runoff from precipitation would drain by gravity into the stream upstream from the location of the station.

Type of Flow – where the flow is known to be natural, this is indicated. The flow of water in many river systems is affected by upstream regulation. In some cases, the extent of this regulation is not known and therefore is not indicated. However, where the regulation is known to be "appreciable", this is indicated as well as the year that the regulation began, if known.

Type of Gauge – refers to the installation or method used to obtain water level or discharge data:

(a) Manual – a non-recording type of gauge from which observations of stage normally are obtained once daily.

(b) Recording – a water-stage recorder from which continuous water levels are obtained on an analog chart. For most International Gauging Stations located in the United States, water level records are obtained utilizing a digital recorder.

International Gauging Station – on waters adjacent to the international boundary, certain gauging stations have been

PRÉSENTATION DES TABLEAUX DE DONNÉES SUR LES SÉDIMENTS

Pour les stations de mesure du débit des sédiments en suspension, les données suivantes sont présentées, pour autant qu'elles sont disponibles:

1. Le tableau concernant le *débit des sédiments en suspension* (The table of Suspended Sediment Load) donne le débit journalier moyen de l'eau, en mètres cubes par seconde, la concentration journalière moyenne, en milligrammes par litre, et le débit journalier des sédiments en suspension, en tonnes par jour. Chaque mois les données indiquent également les débits mensuels totaux de l'eau et des sédiments.

Dans le cas des stations où le débit des sédiments, en tonnes par jour, est fourni pour une année complète ou une partie de l'année, le total pour la période est indiqué.

Dans le cas des stations où seule la concentration des sédiments en suspension est obtenue, ce tableau est absent.

Des renseignements descriptifs additionnels au sujet de la station sont également présentées. On peut y apporter les précisions suivantes:

Emplacement (Location) – La latitude et la longitude de la station de jaugeage sont indiquées. Dans les cas où l'équipement de mesure est situé à une bonne distance de la section où le jaugeage est effectué, on indique les coordonnées de cette section.

Superficie du bassin versant (Drainage area) – Désigne la zone délimitée par une ligne de faîte de sorte que l'écoulement de surface direct provenant des précipitations est entraîné par gravité vers le cours d'eau, en amont de la station.

Type de débit (Type of Flow) – Un débit reconnu comme naturel est indiqué. Le débit de nombreux réseaux hydrographiques est modifié par une régularisation effectuée en amont. Dans certains cas, l'importance de cette régularisation n'est pas connue, et elle n'est donc pas indiquée. Cependant, quand on sait que la régularisation est d'une certaine importance, on l'indique, ainsi que l'année où elle a débuté (si elle est connue).

Type de jauge (Type of Gauge) – Il s'agit des jauges ou des méthodes de jaugeage utilisées pour obtenir les données sur le niveau ou le débit d'un cours d'eau.

(a) *Manuel* (Manual) – Indique qu'un appareil non enregistreur est employé pour obtenir normalement une fois par jour les données sur le niveau et le débit du cours d'eau.

(b) *Enregistreuse* (Recording) – Indique qu'un limnigraphe permet de mesurer de façon continue le niveau des eaux qui est tracé sur un graphique. La plupart des stations internationales de jaugeage des États-Unis obtiennent les données sur le niveau des eaux à l'aide d'un enregistreur numérique.

Station internationale de jaugeage (International Gauging Station) – Dans les eaux contiguës aux frontières, on a

designated as "International" and records are approved jointly. Differences between figures published herein and corresponding figures in United States Water Supply Papers are due to variations in automated data processing techniques.

Contributed Data – if data were supplied in their entirety or partially by an outside agency, the name of this co-operating agency is given.

Remarks – contains a statement pertaining to the sediment sample collection.

2. The table of *Instantaneous Suspended Sediment Concentration* for depth-integrating samples includes the following: Date and Time of the sample collection; Water Temperature; Instantaneous Discharge at time of sampling, (if not available the daily mean discharge is given and indicated by a symbol); Single Sampling Vertical location; Dissolved Solids; Percent Sand, Silt and Clay; Type of Sampler used. The particle-size distribution of Sand, Silt and Clay, in percent is given where available.

The Single Sampling Vertical Location is defined by many symbols, which are as follows, where applicable:

DIGITS - 5, 14, 130, etc., is the distance in metres from the initial point
WERB - Water's Edge RIGHT Bank
WELB - Water's Edge LEFT Bank
1QRB - One-quarter the distance FROM the RIGHT Bank
3QRB - Three-quarters the distance FROM the RIGHT Bank
1QLB - One-quarter the distance FROM the LEFT Bank
3QLB - Three-quarters the distance FROM the LEFT Bank
MID - MID STREAM
MULT - Composite sediment measurement

For the suspended sediment measurements, the Date; Time; Water Temperature at time of sampling; Discharge computed for each sampling panel; Concentration; Sampling Vertical; Dissolved Solids; Percent Sand, Silt and Clay; Type of Sampler used; and the Particle-size distribution of the Sand, Silt and Clay, in percent is given where available.

3. The table of *Point Integrating Particle-size of Suspended Sediment* includes the following: Date and Time of the sample collection; Water Temperature; Panel Discharge for each sampling vertical; Sampling Vertical; Depth of Sample; Concentration of Sample in milligrams per litre; Dissolved Solids, in milligrams per litre, and the Particle-size distribution in percent of the Sand, Silt and Clay are also given.

désigné certaines stations comme «internationales», et les données obtenues sont approuvées par les pays concernés. Les différences entre les chiffres publiés dans la présente publications et dans les *United States Water Supply Papers* sont dues à des variantes dans les techniques de traitement automatique des données.

Données fournies (Contributed Data) – Lorsqu'un organisme extérieur a fourni toutes les données ou une partie des données, son nom est indiqué.

Remarques (Remarks) – Renseignements au sujet du prélèvement des échantillons de sédiments.

2. Le tableau des *concentrations instantanées de sédiments en suspension* (The table of Instantaneous Suspended Sediment Concentration) pour les échantillons obtenus par intégration selon la profondeur comprend: la date et l'heure de prélèvement; la température de l'eau; son débit instantané au moment de l'échantillonnage (s'il n'est pas connu, le débit journalier moyen, avec symbole); l'emplacement de la verticale d'échantillonnage; la concentration des matières dissoutes; les pourcentages de sable, de limon et d'argile; le type d'échantillonneur employé; et la granulométrie du sable, du limon et de l'argile, en pourcentage des particules est donnée lorsqu'elle est disponible.

Le site vertical d'échantillonnage unique est défini par plusieurs symboles dont les suivants dans certains cas :

CHIFFRE - 5, 14, 130, etc., désigne la distance en mètres à partir du point initial
WERB - Bord de l'eau, rive DROITE
WELB - Bord de l'eau, rive GAUCHE
1QRB - Un quart de la distance À PARTIR de la rive DROITE
3QRB - Trois quarts de la distance À PARTIR de la rive DROITE
1QLB - Un quart de la distance À PARTIR de la rive GAUCHE
3QLB - Trois quarts de la distance À PARTIR de la rive GAUCHE
MID - MI-DÉBIT
MULT - Mesure des sédiments mixtes

Pour les mesures des sédiments en suspension, la date, l'heure, la température de l'eau au moment de l'échantillonnage, le débit calculé pour chaque tranche de la section d'échantillonnage, la concentration et la verticale d'échantillonnage, la concentration des matières dissoutes; les pourcentages de sable, de limon et d'argile; le type d'échantillonneur employé; et la granulométrie du sable, du limon et de l'argile, en pourcentage des particules est donnée lorsqu'elle est disponible.

3. Le tableau de la *granulométrie des échantillons ponctuels et intégrés des sédiments en suspension* (The table of Point Integrating Particle-size of Suspended Sediment) comprend: la date et l'heure de prélèvement de l'échantillon, la température de l'eau, le débit de la tranche de la section pour chaque verticale d'échantillonnage, la verticale d'échantillonnage, la profondeur de l'échantillon, la concentration des échantillons, en milligrammes par litre, la concentration des matières dissoutes, en milligrammes par litre, et granulométrie du sable, du limon et de l'argile.

4. The table of *Bed Load Particle-size* includes the following: Date and Time of the sample collection; Panel Discharge; Sampling Vertical and the Type of Sampler used in the collection of the sample and the Particle-size distribution, in percent, for each sample of bed load collected.

5. The table of *Bed Material Particle-size* includes the following: Date and Time of the sample collection; Panel Discharge; Sampling Vertical and the Type of Sampler used in the collection of the sample and the Particle-size distribution, in percent, for each sample of bed material collected.

6. The table of *Historical Sediment Data Summary* gives the following, for the period of record, where applicable.

   (a) Record Summary
   (b) Type of Sampling
   (c) Sampled Concentration, maximum and minimum
   (d) Suspended Sediment Load, maximum daily and the total, for the period, in tonnes
   (e) Summary, including mean load, the historical mean load and the standard error of the mean in percent.

(a) The *Record Summary* gives the months of record that data are available. If the complete month is on file the symbol (C) is shown, while partial months of data are indicated by the symbol (P). Months with no data on file are indicated by (-).

(b) The *Type of Sampling* indicates the type of sampling method used to collect the sediment samples during the period of operation. If the samples were collected by manual methods this is indicated by "MANUAL." If the samples were collected by a pump sampler or some other automatic method this is indicated by "AUTO." If both manual and automatic sampling methods were used this is indicated by "DUAL."

(c) The *Sampled Concentration* gives the maximum and minimum concentration, in milligrams per litre, and the date of collection for each year of record. The extreme recorded for the period of record is indicated by an asterisk (*). If more than one maximum or minimum, of the same value, occurred during the year only the date of the first occurrence is identified by the asterisk.

(d) The *Suspended Sediment Load* gives the maximum daily load, in tonnes, and the date of occurrence. The extreme recorded is indicated by an asterisk (*). The Total for the Period gives the total load for the period or year, in tonnes. The extreme recorded is also indicated by an asterisk (*). If more than one maximum or minimum, of the same value, occurred during the year only the date of the first occurrence is identified by the asterisk. A load which has been revised since the previous publication is marked with the symbol (R) for Revision.

4. Le tableau de la *granulométrie des sédiments charriés* (The table of Bed Load Particle-size) comprend: la date et l'heure de prélèvement de l'échantillon, le débit de la tranche de la section, la verticale d'échantillonnage et le type d'échantillonneur employé et le pourcentage des particules pour chaque échantillon recueilli du charriage.

5. Le tableau de la *granulométrie des matériaux du lit* (The table of Bed Material Particle-size) comprend: la date et l'heure de prélèvement de l'échantillon, le débit de la tranche de la section, la verticale d'échantillonnage et le type d'échantillonneur employé et le pourcentage des particules pour chaque échantillon recueilli.

6. Le tableau du *sommaire chronologique des données sur les sédiments* (The table of Historical Sediment Data Summary) donne, pour la période pour laquelle les données sont disponibles, les renseignements suivants lorsque de telles données existent:

   (a) Le sommaire du relevé
   (b) Le type d'échantillonnage
   (c) Les concentrations mesurées, maximum et minimum
   (d) Le débit des sédiments en suspension, maximum quotidien et le total pour la période en tonnes
   (e) Résumé, comprend le débit moyen, le débit moyen chronologique et l'erreur type de la moyenne en pourcentage.

(a) Le *sommaire du relevé* donne les mois de relevé pour lesquels les données sont disponibles. Le symbole (C) indique que les données sont disponibles pour tout le mois. Le symbole (P) indique que ces données ne sont disponibles que pour une partie du mois. Enfin, on indique par (-) les mois qui n'ont pas de données.

(b) Le *type d'échantillonnage* indique le type de méthode d'échantillonnage que l'on utilise dans le prélèvement des échantillons de sédiments pendant la période d'exploitation. Si le prélèvement des échantillons se fait par des méthodes manuelles, on indique «MANUEL». Si le prélèvement des échantillons se fait au moyen d'échantillonneur à pompe ou par quelque autre méthode automatique, on indique «AUTO». Si on utilise à la fois des méthodes d'échantillonnage manuelles et automatiques, on indique «DOUBLE».

(c) Pour les *concentrations mesurées* (Sampled Concentration), on donne la concentration maximale et la concentration minimale, en milligrammes par litre, et leur date d'obtention pour chaque année de relevé. La valeur extrême enregistrée est indiquée par un astérisque (*). Si la valeur du maximum ou du minimum a été mesurée plus d'une fois pendant l'année, on signale, par l'astérisque, seulement la date de la première mesure.

(d) Sous le *débit des sédiments en suspension* (Suspended Sediment Load), on donne le débit journalier maximal, en tonnes, et sa date de mesure. Le débit extrême enregistré est indiqué par un astérisque (*). Le débit total pour la période ou pour l'année est indiqué. La valeur extrême est également signalée par un astérisque (*). Si la valeur du maximum ou du minimum a été mesurée plus d'une fois pendant l'année, on signale, par l'astérisque, seulement la date de la première mesure. La lettre R indique qu'une valeur du débit a été révisée depuis la dernière publication.

(e) The *Summary* gives the *Mean Load* and the *Historical Mean Load* in tonnes.

The *Standard Error of the Mean* % is calculated using the following equations:

$$SEM = \frac{S}{\bar{x}\sqrt{n}} \times 100\%$$

and

$$S = \sqrt{\frac{\Sigma (x - \bar{x})^2}{n - 1}}$$

where SEM is the Standard Error of the Mean.

- S is the Standard Deviation of the annual mean loads.
- x is the annual Mean Load variable.
- $\bar{x}$ is the Historical Mean Load or the arithmetic mean of the annual Mean Loads.
- n is the number of years for which there is an annual Mean Load.

For stations with only instantaneous samples, this table will not include the *Suspended Sediment Load* or the statistical information in the *Summary*.

CO-OPERATION AND ACKNOWLEDGMENTS

Co-operative undertakings with other agencies form an important part of the activities of the Water Survey of Canada. Close co-operation has been maintained with public agencies and private organizations concerned with water resources. Data have been mutually exchanged and suspended sediment collection operations have been facilitated by the assistance received from a number of organizations.

On waters adjacent to the International Boundary, certain sediment stations are maintained by Canada (or the United States) under agreement with the United States (or Canada) and the records are collected and compiled in a manner equally acceptable to both countries. These stations are designated as "International Gauging Stations" in this publication.

For the valuable assistance and co-operation received in obtaining sediment survey records, the Water Survey of Canada is indebted to other federal and provincial organizations which are noted as contributing agencies in the summary for the year. A list of these agencies may be found in the *Sediment Data Reference Index*.

MICROFICHE

Sediment data are available in metric units on microfiche, upon request. The data are stored in station number order by province. There are 270 frames per microfiche at 48X reduction; there is a visible heading showing the fiche number, type of data, province, beginning and ending station number and year of data, and the month/year the fiche was created. The last frame is an index of the contents of that fiche.

(e) Le *résumé* donne le *débit moyen* et le *débit moyen chronologique*, en tonnes.

L'*erreur-type de la moyenne* % (Standard Error of the Mean), est calculée à l'aide des équations suivantes:

$$SEM = \frac{S}{\bar{x}\sqrt{n}} \times 100\%$$

et

$$S = \sqrt{\frac{\Sigma (x - \bar{x})^2}{n - 1}}$$

où SEM est l'erreur type de la moyenne.

- S est l'écart type des débits moyens annuels.
- x est la variable du débit moyen annuel.
- $\bar{x}$ est le débit moyen chronologique ou la moyenne arithmétique des débits moyens annuels.
- n est le nombre d'années où il y a un débit moyen annuel.

Dans le cas des stations ne prélevant que des échantillons instantanés, ce tableau ne donnera pas le *débit des sédiments en suspension* ni les données statistiques du *résumé*.

COOPÉRATION ET REMERCIEMENTS

Le travail entrepris en coopération avec d'autres organismes représente une partie importante des activités de la Division des relevés hydrologiques du Canada. On a maintenu une étroite collaboration avec les organismes, publics ou privés, qui s'intéressent aux ressources en eau. On a échangé des données sur les sédiments, et l'assistance fournie par certains organismes a facilité les opérations d'échantillonnage des sédiments en suspension.

Dans les eaux adjacentes à la frontière internationale, les stations dépendent du Canada ou des États-Unis selon l'accord intervenu entre les deux pays, et les relevés sont faits et compilés de façon à satisfaire les deux pays. Ces stations sont nommées «Stations internationales de jaugeage» dans la présente publication.

La Division des relevés hydrologiques du Canada est redevable à plusieurs organismes fédéraux et provinciaux, dont les noms apparaissent dans le sommaire de l'année, de l'aide et de la collaboration qu'ils lui ont apportées pour l'obtention des données sur les sédiments. On trouvera également les noms des organismes qui ont fourni des données dans l'*Index de référence des données sur les sédiments*.

MICROFICHE

Les données sur les sédiments sont disponibles sur microfiche en unités métriques. Ces données sont emmagasinées par ordre de numéro de station et par province. Chaque microfiche renferme 270 pages réduites de 48X. L'en-tête indique le numéro de la fiche, le genre de données, la province, le numéro de la première et de la dernière station, la première et la dernière année des données ainsi que le mois et l'année de création de la fiche. La dernière image donne l'index de la fiche.

DEFINITION OF TERMS

The following definitions are given to clarify the terms used in this publication:

Automatic pump sample is an individual water-sediment mixture pumped from a fixed point in a stream.

Bed load is that material moving in almost continuous contact with the streambed, being rolled or pushed along the bottom by the force of the water.

Bed material is the sediment mixture of which the streambed is composed.

Daily load is the suspended sediment load expressed in tonnes for a particular day. The daily load is obtained by multiplying the daily mean sediment concentration (mg/L) by the daily mean discharge (m^3/s) and the conversion factor, 0.0864.

Daily mean concentration is a time-weighted mean value and is computed from a manually constructed concentration curve. The mean concentration value may be determined arithmetically or graphically. The arithmetic mean is obtained either by (1) selecting values from the concentration graph that represents uniform intervals of time and taking the arithmetic average or by (2) selecting values from the graph that represent unequal intervals of time and weighing these values by the time intervals represented by the concentrations. For graphical explanation refer to *Office Procedures for Sediment Data Computations* and for the automated graphical explanation refer to *Automated Hydrometric Computation Procedures*.

Depth-integrated sediment sample is a suspended sediment sample collected at a single vertical in a cross section in a sampler moving vertically at a constant transit rate and represents an average sample for that part of the depth ranging from the water surface to about nine centimetres above the streambed.

Instantaneous suspended sediment sample is a sample collected at a fixed vertical in a river cross section.

Measured suspended sediment discharge is the suspended sediment discharge that can be computed from stream discharge and the concentration of sediment determined from depth-integrated sediment samples.

Particle-size analysis is the process of determining the size distribution of particles in a sediment sample.

Point-integrated sediment sample is a sample of the water-sediment mixture taken over a specified period of time at a fixed point and depth in a river cross section.

DÉFINITION DES TERMES

Les définitions suivantes sont présentées afin de faciliter la compréhension des termes utilisés dans la présente publication:

Échantillonnage automatique à l'aide d'une pompe (Automatic pump sample): Prélèvement d'un mélange de sédiments et d'eau au moyen d'une pompe fonctionnant automatiquement, en un point précis d'un cours d'eau.

Charriage (Bed load): Matières roulées ou poussées sur le fond sous l'action de l'eau, mais restant en contact presque permanent avec le fond.

Matériau du lit (Bed material): Mélange de sédiments composant le lit d'un cours d'eau.

Débit journalier des sédiments en suspension (Daily load): Débit des sédiments en suspension exprimé en tonnes par jour, pour une journée donnée. On l'obtient en multipliant la concentration journalière moyenne des sédiments (mg/L) par le débit journalier moyen de l'eau (m^3/s) et le facteur de conversion 0.0864.

Concentration journalière moyenne (Daily mean concentration): Moyenne pondérée en fonction du temps, calculée à partir d'une courbe de la concentration établie manuellement. La valeur de la concentration moyenne peut être déterminée arithmétiquement ou graphiquement. Pour la déterminer arithmétiquement, on peut, soit choisir sur la courbe des valeurs représentant des intervalles uniformes de temps et faire la moyenne arithmétique, soit choisir sur cette courbe des valeurs qui représentent des intervalles inégaux de temps et pondérer ces valeurs en fonction des intervalles de temps correspondants. En ce qui concerne les méthodes graphiques, consulter *Méthodes de bureau pour les calculs de données sur les sédiments* et, pour la méthode automatisée, *Automated Hydrometric Computation Procedures*.

Échantillon intégré sur toute la profondeur (Depth integrated sediment sample): Échantillon des sédiments en suspension prélevé sur une verticale précise d'une section transversale d'un cours d'eau à l'aide d'un échantillonneur se déplaçant verticalement à une vitesse constante; il représente un échantillon moyen des matières en suspension entre la surface de l'eau et environ 9 cm du fond.

Échantillon instantané de sédiments en suspension (Instantaneous suspended sediment sample): Échantillon prélevé à une verticale précise d'une section transversale d'un cours d'eau.

Débit mesuré des sédiments en suspension (Measured suspended sediment discharge): Débit des sédiments en suspension qui peut être calculé à partir du débit du cours d'eau et de la concentration des sédiments déterminée à partir d'échantillons intégrés sur toute la profondeur.

Analyse granulométrique (Particle-size analysis): Détermination de la répartition de la taille des particules dans un échantillon de sédiments.

Échantillon ponctuel et intégré (Point-integrated sediment sample): Échantillon constitué d'un mélange d'eau et de sédiments, prélevé au cours d'une période de temps donnée en un point précis d'une section transversale d'un cours d'eau et à une profondeur donnée.

Sediment is fragmental material which has deposited, eroded or transported by a flowing stream.

Sediment hydrograph is a graph showing the variation of suspended sediment concentration or sediment discharge with respect to time.

Single sample is a sample taken at a selected permanent vertical in a cross section. Two bottles of water-sediment mixture make up each single sample.

Single sampling vertical is a selected permanent vertical in a cross section in which single suspended sediment samples are collected.

Suspended sediment is sediment that moves in suspension in water either as a colloid or through the influence of the upward component of turbulent currents.

Suspended sediment concentration is the ratio of the weight of dry solids in a water-sediment mixture to the volume of the mixture. The units of this ratio are "milligrams per litre" (mg/L).

Suspended sediment load is the quantity of suspended sediment transported through a cross section per unit of time.

Total sediment load is the sum of the suspended sediment load and the bed load.

Unmeasured sediment load is the difference between total sediment load and measured suspended sediment load.

DEFINITION OF SYMBOLS

Symbols are located at the bottom of the data sets under the headings Time, Discharge, Concentration, and Dissolved Solids. The symbols with their definitions are listed below.

Time Symbol

E – Estimated – indicates estimated data. It indicates that the time of sample collection is estimated by some indirect method or comparison with other stream data.

Discharge Symbol(s)

A – Manual Gauge – indicates that one or more manual gauge observations per day were obtained and used as the mean for the day for a gauging station equipped with a recording gauge. This symbol is used during open-water periods only.

B – Ice Conditions – indicates the presence of ice at the gauging station. For gauging stations where discharge data are obtained, this symbol indicates that the presence of ice has affected the stage-discharge relationship.

E – Estimated – indicates estimated data. It indicates that the values recorded are estimated by some indirect method such as interpolation, extrapolation, comparison with other streams or by comparison with meteorological data.

Sédiments (Sediment): Matières fragmentaires qui ont été déposées, érodées ou transportées par un cours d'eau.

Hydrogramme des sédiments (Sediment hydrograph): Graphique représentant la variation de la concentration des sédiments en suspension ou du débit des sédiments en fonction du temps.

Échantillon unique (Single sample): Échantillon prélevé sur une verticale permanente particulière dans une section transversale. Deux bouteilles du mélange eau-sédiments constituent un seul échantillon.

Verticale d'échantillonnage unique (Single sampling vertical): Verticale permanente d'une section transversale où des échantillons uniques de sédiments en suspension sont prélevés.

Sédiments en suspension (Suspended sediment): Matériaux qui se déplacent au sein de l'eau, soit sous forme colloïdale, soit sous l'influence des forces ascendantes des courants turbulents.

Concentration des sédiments en suspension (Suspended sediment concentration): Rapport entre le poids des matières solides sèches contenues dans un mélange eau-sédiments et le volume du mélange. Les unités employées sont les «milligrammes par litre» (mg/L).

Débit des sédiments en suspension (Suspended sediment load): Quantité de sédiments en suspension transportés par unité de temps à travers une section transversale d'un cours d'eau.

Débit total des sédiments (Total sediment load): Somme du débit des sédiments en suspension et du débit charrié.

Débit non mesuré des sédiments (Unmeasured sediment load): Différence entre le débit total des sédiments et le débit mesuré des sédiments en suspension.

DÉFINITION DES SYMBOLES

Les symboles figurent au bas des séries de données et sont traités sous les rubriques Temps, Débit, Concentration, Matières solides en solution. Ces symboles avec leurs définitions sont donnés dans la liste ci-après.

Symbole du temps :

E – Estimative – Indique des données estimatives, c'est-à-dire que l'heure de prélèvement de l'échantillon est évaluée de façon indirecte ou par comparaison avec d'autres données sur les cours d'eau.

Symbole(s) du débit :

A – Turbidisonde simple – Indique qu'on a effectué à une station de jaugeage dotée d'une turbidisonde enregistreuse au moins une observation par jour à l'aide d'une turbidisonde simple et qu'on s'en est servi comme moyenne pour la journée en question. Le symbole n'est employé qu'au cours des périodes d'eau libre.

B – Glaces – Indique la présence de glaces à la station de jaugeage, qui ont faussé la relation hauteur-débit.

E – Estimative – Indique des données estimatives, c'est-à-dire que les valeurs enregistrées sont évaluées de façon indirecte, par exemple par interpolation, extrapolation, ou par comparaison avec d'autres cours d'eau ou avec des données météorologiques.

H – Daily Mean Discharge – is the mean discharge for a particular day, usually referred to as the "daily mean discharge".

V – Daily Mean; Manual Gauge – is the mean discharge for a particular day and indicates that one or more manual gauge observations per day were obtained and used as the mean for the day.

W – Daily Mean; Ice Conditions – is the mean discharge for a particular day and indicates that the presence of ice has affected the stage-discharge relationship.

Y – Daily Mean; Estimated – is the mean discharge for a particular day and indicates that the value has been estimated by some indirect method.

Concentration Symbol(s)

B – Split vertical sample Bottom portion only – indicates that the concentration represents a sample collected from the bottom portion of a split vertical sample.

C – Coarse Material Present – indicates that during the laboratory analysis coarse material (sand) was observed in the sediment sample.

F – Sample Bottle Filled – indicates that during the laboratory analysis it was observed that the sample bottle had been filled to capacity.

G – Organic Material Present – indicates that during the laboratory analysis it was observed that organic material was collected in the sample bottle.

T – Split vertical sample Top portion only – indicates that the concentration represents a sample collected from the top portion only of a split vertical sample.

Single Vertical Symbol(s)

M – Sediment measurement vertical – indicates that the sampling vertical is one of several, usually five, and represents a panel width. The instantaneous discharge represents the flow for a panel width.

X – Sampling vertical not at the regular single vertical – indicates that a sample was collected at a location, in a cross-section, which is not at the regular single vertical. The location of the regular single vertical is given at the bottom of the Instantaneous Suspended Sediment data.

Z – Sediment measurement vertical not at the regular measurement cross-section – indicated that a suspended sediment measurement was collected in a cross-section which is not the regular measurement corss-section.

Note: If no symbol is present the samples have then been collected at the regular Single Vertical.

H – Débit journalier moyen – Débit moyen pour une journée donnée, ordinairement appelé «débit journalier moyen».

V – Débit journalier moyen, turbidisonde simple – Débit moyen pour une journée donnée; indique qu'on a effectué au moins une observation par jour et qu'on s'en est servi comme moyenne pour la journée en question.

W – Débit journalier moyen, glaces – Débit moyen pour une journée donnée; indique que la présence de glaces a faussé la relation hauteur-débit.

Y – Débit journalier moyen, estimative – Débit moyen pour une journée donnée; indique que la valeur a été évaluée de façon indirecte.

Symbole(s) de la concentration :

B – Échantillon fractionné pris à la verticale, partie inférieure seulement – Indique que la concentration réfère à un échantillon prélevé dans la partie inférieure d'un échantillon fractionné pris à la verticale.

C – Sable grossier présent – Indique qu'au cours de l'analyse en laboratoire on a observé du sable grossier dans un échantillon de sédiments.

F – Flacon d'échantillonnage rempli – Indique qu'au cours de l'analyse en laboratoire on a observé que le flacon d'échantillonnage avait été complètement rempli.

G – Substance organique présente – Indique qu'au cours de l'analyse en laboratoire on a observé qu'une substance organique a été prélevée dans le flacon d'échantillonnage.

T – Échantillon fractionné pris à la verticale, partie supérieure seulement – Indique que la concentration réfère à un échantillon prélevé dans la partie supérieure seulement d'un échantillon fractionné pris à la verticale.

Symbole(s) de la verticale unique :

M – Verticale de mesure des sédiments – Indique que la verticale d'échantillonnage est l'une de plusieurs verticales, en général cinq, et qu'elle représente la dimension d'une tranche. Le débit instantané représente le débit relatif à la dimension d'une tranche.

X – Verticale d'échantillonnage à l'extérieur de la verticale unique habituelle – Indique qu'un échantillon a été prélevé à un endroit, dans une section transversale, mais à l'extérieur de la verticale unique habituelle. L'endroit de la verticale unique habituelle est donné à la fin des données sur les sédiments en suspension instantanés.

Z – Verticale de mesure des sédiments, à l'extérieur de la section transversale de mesure habituelle – Indique qu'une mesure de sédiments en suspension a été prise dans une section transversale à l'extérieur de la section transversale de mesure habituelle.

Note : S'il n'y a pas de symbole, cela indique que les échantillons ont été prélevés à la verticale unique habituelle.

EQUIVALENTS OF MEASURE

The following list of convenient equivalents of measure includes the relationship between imperial units and the International System of Units (SI).

1 inch equals 2.54 cm (centimetres)
1 foot equals 0.3048 m (metre)
1 statute mile equals 1.6093 km (kilometres)

1 cm (centimetre) equals 0.393 70 inch
1 m (metre) equals 3.2808 feet
1 km (kilometre) equals 0.621 37 mile

1 acre equals 43 560 square feet
1 acre equals 0.404 69 ha (hectare)
1 square mile equals 640 acres
1 square mile equals 2.5900 km^2 (square kilometres)
1 square mile equals 259.0 ha (hectares)

1 ha (hectare) equals 10 000 m^2 (square metres)
1 ha (hectare) equals 2.4710 acres
1 km^2 (square kilometre) equals 0.386 10 square mile

1 cubic foot equals 6.2288 imperial gallons
1 imperial gallon equals 4.546 09 L (litres)
1 imperial gallon equals 1.2010 U.S. gallons
1 U.S. gallon equals 0.133 68 cubic foot
1 cubic foot equals 0.028 317 m^3 (cubic metre)
1 m^3 (cubic metre) equals 35.315 cubic feet
1 dam^3 (cubic decametre) equals 1000 m^3 (cubic metres)
1 dam^3 (cubic decametre) equals 1 mm (millimetre) over 1 km^2 (square kilometre)

1 cubic foot per second for one day equals 1.9835 acre-feet
1 cubic foot per second for one day covers one square mile to a depth of 0.037 19 inch
1 acre-foot equals 1.2335 dam^3 (cubic decametres)
1 m^3/s (cubic metre per second) for one day equals 86.4 dam^3 (cubic decametre)
1 m^3/s (cubic metre per second) for one day covers one square kilometre to a depth of 0.0864 m (metre)

1 foot per second equals 0.6818 mile per hour
1 mile per hour equals 1.467 feet per second
1 m/s (metre per second) equals 3.6 km/h (kilometre per hour)
1 km/h (kilometre per hour) equals 0.2778 m/s (metre per second)

1 cubic foot per second equals 0.028 317 m^3/s (cubic metre per second)
1 m^3/s (cubic metre per second) equals 35.315 cubic feet per second

1 pound equals 0.453 59 kg (kilogram)
1 kg (kilogram) equals 2.2046 pounds

1 short ton (2000 pounds) equals 0.907 18 t (tonne)
1 t (tonne) equals 2204.6 pounds

degrees Celsius = 5/9 (degrees Fahrenheit - 32)
degrees Fahrenheit = 9/5 (degrees Celsius) + 32

ÉQUIVALENCES DES UNITÉS DE MESURE

Voici une liste des unités de mesure impériales et leurs équivalences dans le Système international d'unités (SI).

1 pouce vaut 2.54 cm (centimètres)
1 pied vaut 0.3048 m (mètre)
1 mille terrestre vaut 1.6093 km (kilomètre)

1 cm (centimètre) vaut 0.393 70 pouce
1 m (mètre) vaut 3.2808 pieds
1 km (kilomètre) vaut 0.621 37 mille

1 acre vaut 43 560 pieds carrés
1 acre vaut 0.404 69 ha (hectare)
1 mille carré vaut 640 acres
1 mille carré vaut 2.5900 km^2 (kilomètres carrés)
1 mille carré vaut 259.0 ha (hectares)

1 ha (hectare) vaut 10 000 m^2 (mètres carrés)
1 ha (hectare) vaut 2.4710 acres
1 km^2 (kilomètre carré) vaut 0.386 10 mille carré

1 pied cube vaut 6.2288 gallons impérials
1 gallon impérial vaut 4.546 09 L (litres)
1 gallon impérial vaut 1.2010 gallon américain
1 gallon américain vaut 0.133 68 pied cube
1 pied cube vaut 0.028 317 m^3 (mètre cube)
1 m^3 (mètre cube) vaut 35.315 pieds cubes
1 dam^3 (décamètre cube) vaut 1000 m^3 (mètres cubes)
1 dam^3 (décamètre cube) vaut 1 mm (millimètre) qui couvre 1 km^2 (kilomètre carré)

1 pied cube par seconde pendant un jour vaut 1.9835 acre-pied
1 pied cube par seconde pendant un jour couvre un volume d'un mille carré par 0.037 19 pouce
1 acre-pied vaut 1.2335 dam^3 (décamètre cube)
1 m^3/s (mètre cube par seconde) pour un jour vaut 86.4 dam^3 (décamètres cubes)
1 m^3/s (mètre cube par seconde) pour un jour couvre un kilomètre carré à une profondeur de 0.0864 m (mètre)

1 pied par seconde vaut 0.6818 mille par heure
1 mille par heure vaut 1.467 pied par seconde
1 m/s (mètre par seconde) vaut 3.6 km/h (kilomètres par heure)
1 km/h (kilomètre par heure) vaut 0.2778 m/s (mètre par seconde)

1 pied cube par seconde vaut 0.028 317 m^3/s (mètre cube par seconde)
1 m^3/s (mètre cube par seconde) vaut 35.315 pieds cubes par seconde

1 livre vaut 0.453 59 kg (kilogramme)
1 kg (kilogramme) vaut 2.2046 livres

1 tonne courte (2000 livres) vaut 0.907 18 t (tonne)
1 t (tonne) vaut 2204.6 livres

degrés Celsius = 5/9 (degrés Fahrenheit - 32)
degrés Fahrenheit = 9/5 (degrés Celsius) + 32

REVISIONS

A number of corrections or revisions have been made to previously published data. Many of these were required because of typographical or computational errors which were exposed when the data were stored on magnetic tape and monthly means were re-calculated by computer. Other errors were discovered or different interpretations of basic data were made during the systematic review of historical streamflow data presently underway.

Revisions to daily discharges or sediment data are not published at present. However, those stations where a systematic review has been conducted are identified in the Surface Water Data Reference Index publication. The Historical Streamflow Summary publications contain revisions to monthly and annual mean discharges, and annual extremes of discharge. Revisions, corrections or additions made to discharges and sediment after January 1, 1980, are indicated by an "R" symbol in the data summaries. Detailed information on revisions to historical data is available from the appropriate Regional Chief.

RÉVISIONS

On a corrigé ou révisé des données déjà publiées. Il a été nécessaire d'effectuer plusieurs corrections, car on a relevé des erreurs typographiques ou de calcul lorsqu'on a enregistré les données sur rubans magnétiques et qu'on a recalculé les moyennes mensuelles à l'aide d'un ordinateur. On a aussi relevé d'autres erreurs ou fait des interprétations différentes de certaines données de base au cours de la révision systématique des données historiques sur le débit, actuellement en cours.

Les corrections apportées aux débits journaliers ou aux données sur les sédiments ne sont pas publiées, du moins pour le moment. Cependant, les stations où on a effectué une révision systématique sont indiquées dans l'*Index de référence des données sur les eaux de surface*. Les publications intitulées *Sommaire chronologique de l'écoulement* contiennent des données révisées sur les débits mensuels et annuels moyens et les extrêmes annuels du débit. Les révisions, corrections ou ajouts apportés aux données sur les débits et sur les sédiments après le 1er janvier 1980 sont indiqués par la lettre R dans les résumés des données. On peut obtenir plus de détails sur les révisions en s'adressant au chef régional concerné.

MANITOBA

ANTLER RIVER NEAR MELITA - STATION NO. 05NF002

SUSPENDED SEDIMENT FOR 1986

LOCATION: LAT 49 03 34 N LONG 101 02 55 W
DRAINAGE AREA: 3 230 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 418 TONNES FOR THE PERIOD JAN 01 TO DEC 31

REMARKS:

DAY	JAN DAILY DISCHARGE (m³/s)	JAN MEAN CONCENTRATION (mg/L)	JAN DAILY LOAD (t)	FEB DAILY DISCHARGE (m³/s)	FEB MEAN CONCENTRATION (mg/L)	FEB DAILY LOAD (t)	MAR DAILY DISCHARGE (m³/s)	MAR MEAN CONCENTRATION (mg/L)	MAR DAILY LOAD (t)	DAY
1	0.115 B	4	0.04	0.087 B	4	0.03	0.125 B	4	0.04	1
2	0.113 B	4	0.04	0.071 B	4	0.02	0.143 B	5	0.06	2
3	0.112 B	4	0.04	0.074 B	4	0.03	1.56 B	5	0.68	3
4	0.111 B	4	0.04	0.076 B	4	0.03	4.87 B	10	4.29	4
5	0.108 B	4	0.04	0.078 B	4	0.03	4.37 B	9 S	3.40	5
6	0.105 B	4	0.04	0.078 B	4	0.03	4.83 B	27 S	10.8	6
7	0.099 B	4	0.03	0.075 B	4	0.03	5.13 B	12 S	5.32	7
8	0.098 B	4	0.03	0.074 B	4	0.03	5.37 B	5	2.78	8
9	0.101 B	4	0.03	0.071 B	4	0.02	4.17 B	8 S	2.88	9
10	0.103 B	4	0.04	0.068 B	4	0.02	5.60 B	8 S	3.87	10
11	0.105 B	4	0.04	0.065 B	4	0.02	3.98 B	5 S	1.73	11
12	0.104 B	4	0.04	0.068 B	4	0.02	5.08 B	5 S	2.19	12
13	0.100 B	4 S	0.03	0.084 B	4	0.02	5.58 B	8	3.86	13
14	0.099 B	4	0.03	0.084 B	4	0.02	4.24 B	8	2.93	14
15	0.097 B	4	0.03	0.062 B	4	0.02	3.65 B	6 S	1.84	15
16	0.088 B	4	0.03	0.062 B	4	0.02	3.31 B	3	0.86	16
17	0.089 B	4	0.03	0.063 B	4	0.02	3.11 B	3 S	0.81	17
18	0.095 B	4	0.03	0.058 B	4	0.02	3.38 B	7 S	1.99	18
19	0.098 B	4	0.03	0.058 B	4	0.02	3.95 B	11 S	3.37	19
20	0.101 B	4	0.03	0.056 B	4	0.02	3.70 B	8 S	2.56	20
21	0.095 B	4	0.03	0.056 B	4	0.02	3.84 B	9 S	2.83	21
22	0.087 B	4	0.03	0.057 B	4	0.02	3.80 B	12	3.94	22
23	0.083 B	4	0.03	0.058 B	4	0.02	4.21 B	14 S	5.09	23
24	0.084 B	4	0.03	0.060 B	4	0.02	4.19 B	14 S	5.07	24
25	0.087 B	4	0.03	0.065 B	4	0.02	4.22 B	13 S	4.74	25
26	0.076 B	4	0.03	0.133 B	4	0.05	3.64 B	15 S	4.72	26
27	0.067 B	4	0.02	0.075 B	4	0.03	3.22 B	16 S	4.45	27
28	0.067 B	4	0.02	0.074 B	4	0.03	2.79	13 S	3.13	28
29	0.065 B	4	0.02				2.80	15 S	3.63	29
30	0.064 B	4	0.02				2.85	15	3.43	30
31	0.064 B	4	0.02				2.51	11 S	2.39	31
TOTAL	2.904		0.97	1.920		0.67	113.148		99.67	TOTAL

DAY	APR DAILY DISCHARGE (m³/s)	APR MEAN CONCENTRATION (mg/L)	APR DAILY LOAD (t)	MAY DAILY DISCHARGE (m³/s)	MAY MEAN CONCENTRATION (mg/L)	MAY DAILY LOAD (t)	JUN DAILY DISCHARGE (m³/s)	JUN MEAN CONCENTRATION (mg/L)	JUN DAILY LOAD (t)	DAY
1	2.50	13 S	2.81	0.857	9	0.67	0.848	19 S	1.39	1
2	2.40	9 S	1.87	0.829	8	0.57	0.757	19	1.24	2
3	2.25	8	1.56	0.805	8	0.56	0.700	18	1.09	3
4	2.10	7	1.27	0.776	13 S	0.87	0.637	17	0.94	4
5	1.88	7	1.20	0.672	17	1.28	0.580	16	0.82	5
6	2.03	7	1.23	1.56	18	2.43	0.518	15	0.67	6
7	2.20	13 S	2.47	2.10	15 S	3.45	0.457	14	0.55	7
8	2.14	16	2.96	1.92	17	2.82	0.403	14	0.49	8
9	1.92	18	2.99	1.95	16	2.71	0.384	14	0.44	9
10	1.69	17 S	2.48	2.64	17	3.88	0.321	15 S	0.42	10
11	1.54	16	2.13	3.33	19 S	5.47	0.281	16	0.40	11
12	1.41	15	1.83	4.85	31	12.5	0.270	19 S	0.44	12
13	1.30	15	1.68	6.62	45	25.7	0.262	18	0.41	13
14	1.21	14 S	1.46	8.91	41 S	24.5	0.230	18	0.34	14
15	1.14	13	1.28	8.58	31	17.6	0.229	19	0.38	15
16	1.08	13	1.31	8.05	23	12.0	0.233	20	0.40	16
17	1.01	14 S	1.22	5.48	18	8.49	0.192	21	0.35	17
18	1.05	15	1.37	5.14	16 S	7.11	0.182	21	0.33	18
19	1.10	12	1.14	4.35	15	5.84	0.157	22	0.30	19
20	1.11	11	1.05	3.64	15	4.72	0.141	22	0.27	20
21	1.08	10	0.93	3.15	14	3.81	0.129	23	0.26	21
22	1.09	10 S	0.94	2.89	14	3.25	0.116	23	0.23	22
23	1.17	10	1.01	2.38	13	2.67	0.103	22 S	0.20	23
24	1.16	10	1.00	2.18	13	2.45	0.113	22	0.21	24
25	1.13	9	0.88	1.84	12 S	1.91	0.073	21	0.13	25
26	1.10	9	0.86	1.58	11	1.50	0.156	17	0.23	26
27	1.07	9	0.83	1.40	11	1.33	0.227	14 S	0.27	27
28	1.01	9	0.78	1.24	11	1.18	0.277	13	0.31	28
29	0.838	9 S	0.73	1.13	12	1.17	0.277	13	0.31	29
30	0.893	9	0.69	1.03	14	1.25	0.313	12 S	0.32	30
31				0.932	17	1.37				31
TOTAL	43.811		43.67	86.801		184.86	9.546		14.14	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

MANITOBA

ANTLER RIVER NEAR MELITA - STATION NO. 05NF002

SUSPENDED SEDIMENT FOR 1988

DAY	JUL DAILY DISCHARGE (m^3/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	AUG DAILY DISCHARGE (m^3/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	SEP DAILY DISCHARGE (m^3/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	DAY
1	0.257	12	0.31	3.25	18	5.05	0.080	12	0.08	1
2	0.238	13	0.27	3.09	17	4.54	0.087	12	0.09	2
3	0.203	15	0.26	2.37	17 S	3.48	0.117	10	0.10	3
4	0.177	16 S	0.24	1.78	16	2.46	0.108	8	0.08	4
5	0.157	17	0.23	1.39	15	1.80	0.077	8	0.05	5
6	0.153	17	0.24	1.10	18	1.52	0.053	7	0.03	6
7	0.119	17	0.17	0.893	17	1.31	0.043	5	0.02	7
8	0.108	18	0.16	0.740	18	1.15	0.038	4	0.01	8
9	0.095	19	0.15	0.646	19	1.06	0.033	4	0.01	9
10	0.083	19 S	0.15	0.569	21	1.00	0.018	3 S	0	10
11	0.080	18	0.14	0.486	22	0.87	0.001	3	0	11
12	0.108	17	0.16	0.375	23 S	0.75	0	0	0	12
13	0.139	16	0.19	0.302	24	0.63	0	0	0	13
14	0.818	16	1.27	0.258	24	0.53	0	0	0	14
15	1.01	17 S	1.48	0.277	24	0.57	0	0	0	15
16	0.907	17	1.33	0.231	24	0.48	0	0	0	16
17	0.895	17	1.31	0.190	25	0.41	0	0	0	17
18	1.44	18	2.24	0.168	26 S	0.38	0	0	0	18
19	1.90	18	2.95	0.229	23 S	0.46	0	0	0	19
20	1.73	17	2.64	0.247	22	0.47	0	0	0	20
21	1.74	20	3.01	0.255	21 S	0.46	0	0	0	21
22	2.60	25	5.62	0.268	19	0.44	0	0	0	22
23	2.85	26 S	6.40	0.238	18	0.37	0	0	0	23
24	2.42	26	5.44	0.216	17	0.32	0	0	0	24
25	1.98	25	4.23	0.171	17	0.25	0	0	0	25
26	1.82	22	3.08	0.165	16	0.23	0	0	0	26
27	1.41	20	2.44	0.152	15	0.20	0.003	3	0	27
28	1.34	17	1.97	0.104	13 S	0.12	0.011	4	0	28
29	1.20	16	1.85	0.116	13	0.13	0.015	5	0.01	29
30	1.57	19	2.58	0.085	13	0.10	0.014	5	0.01	30
31	2.45	19	4.02	0.074	13	0.08				31
TOTAL	31.945		58.25	20.383		31.62	0.699		0.49	TOTAL

DAY	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	NOV DAILY DISCHARGE (m^3/s)	NOV MEAN CONCENTRATION (mg/L)	NOV DAILY LOAD (t)	DEC DAILY DISCHARGE (m^3/s)	DEC MEAN CONCENTRATION (mg/L)	DEC DAILY LOAD (t)	DAY
1	0.015	5	0.01	0.050	12	0.05	0.085 B	10	0.07	1
2	0.048	5	0.02	0.077	13	0.08	0.075 B	10	0.08	2
3	0.042	5	0.02	0.088	13	0.08	0.093 B	10	0.08	3
4	0.032	5	0.01	0.074	13	0.08	0.099 B	10	0.08	4
5	0.026	5	0.01	0.054	14 S	0.07	0.085 B	10	0.07	5
6	0.025	5	0.01	0.058	14	0.07	0.089 B	11	0.08	6
7	0.004	4	0	0.052	13	0.06	0.031 B	11	0.03	7
8	0	0	0	0.039 B	13	0.04	0.065 B	11 S	0.06	8
9	0	0	0	0.084 B	14	0.10	0.088 B	11	0.08	9
10	0	0	0	0.082 B	13	0.10	0.071 B	11	0.07	10
11	0	0	0	0.090 B	12	0.09	0.049 B	11	0.05	11
12	0	0	0	0.073 B	12	0.08	0.070 B	11	0.07	12
13	0.018	3	0	0.056 B	11	0.05	0.054 B	11	0.05	13
14	0.058	4	0.02	0.038 B	11	0.03	0.045 B	11	0.04	14
15	0.057	7	0.03	0.050 B	10	0.04	0.065 B	10	0.06	15
16	0.076	8	0.05	0.100 B	11	0.10	0.064 B	10	0.06	16
17	0.076	9	0.06	0.152 B	11	0.14	0.053 B	10	0.05	17
18	0.073	8	0.05	0.128 B	11	0.12	0.080 B	9	0.06	18
19	0.071	8	0.05	0.106 B	10	0.09	0.082 B	9	0.06	19
20	0.076	8	0.05	0.100 B	9	0.08	0.067 B	9	0.05	20
21	0.073	9	0.06	0.082 B	9	0.06	0.043 B	9	0.03	21
22	0.076	9	0.06	0.077 B	9	0.06	0.021 B	8	0.01	22
23	0.081	9	0.07	0.071 B	10	0.06	0.038 B	7	0.02	23
24	0.104	9	0.08	0.089 B	10	0.08	0.048 B	7	0.03	24
25	0.101	10	0.09	0.079 B	10	0.07	0.045 B	7	0.03	25
26	0.093	10	0.08	0.083 B	10	0.07	0.033 B	7	0.02	26
27	0.094	10	0.08	0.083 B	11	0.08	0.027 B	7	0.02	27
28	0.150	13	0.16	0.081 B	11	0.08	0.029 B	7	0.02	28
29	0.071	11	0.07	0.077 B	11	0.07	0.011 B	7	0.01	29
30	0.038	10	0.02	0.078 B	11	0.08	0.050 B	7	0.03	30
31	0.048	10	0.04				0.038 B	6	0.02	31
TOTAL	1.637		1.22	2.319		2.25	1.803		1.48	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

MANITOBA

ANTLER RIVER NEAR MELITA - STATION NO. 05NF002

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1985

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)		SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER		INSTANT CONCENT. (mg/L)		DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 05	18:10	0.5	4.93	B	MID		DHS9		12		238														
MAR 06	14:00E	0.5	4.63	W	MID		DHS9		30																
MAR 07	13:45	0.5	5.13	W	MID		DHS9		8																
MAR 09	11:00	0.5	4.17	W	MID		DHS9		8		272														
MAR 09	19:25	0.5	4.17	W	MID		DHS9		5																
MAR 10	11:05	1.0	5.60	W	MID		DHS9		7																
MAR 11	11:17	0.5	3.98	W	MID		DHS9		4																
MAR 12	13:23	0.5	5.08	W	MID		DHS9		5		274														
MAR 15	18:14	1.5	3.55	W	MID		DHS9		5																
MAR 17	17:20	0.5	3.11	W	MID		DHS9		3		357														
MAR 17	17:48	0.5	3.11	W	MID		DHS9		4																
MAR 18	14:10	0.5	3.44	B	MID		DHS9		8																
MAR 18	17:18	0.5	3.58	W	MID		DHS9		11																
MAR 20	13:22	1.0	3.70	W	MID		DHS9		8																
MAR 21	15:58		3.84	W	MID		DHS9		9																
MAR 23	14:02		4.21	W	MID		DHS9		14		287														
MAR 23	14:03		4.21	W	MID		DHS9		14																
MAR 24	18:44		4.18	W	MID		DHS9		14																
MAR 25	11:08	0.5	4.40	B	MID		DHS9		15																
MAR 25	12:38	0.5	0.851	B	7.5	Z	DHS9		16		271														
MAR 25	12:47	0.5	0.915	B	9.5	Z	DHS9		15		288														
MAR 25	12:53	0.5	0.888	B	11.5	Z	DHS9		14		267														
MAR 25	12:58	0.5	0.914	B	13.0	Z	DHS9		14		282														
MAR 25	13:06	0.5	0.810	B	15.0	Z	DHS9		28	C	275														
MAR 25	18:11	0.5	4.10	B	MID		DHS9		10		258														
MAR 26	11:46	1.0	3.39	B	MID		DHS9		16																
MAR 27	18:50	1.0	3.22	B	MID		DHS9		14																
MAR 28	10:50	1.0	2.82		MID		DHS9		13																
MAR 29	18:12	1.0	2.95		MID		DHS9		16		259														
MAR 31	17:43	1.5	2.49		MID		DHS9		11																
APR 01	18:28	1.5	2.52		MID		DHS9		14																
APR 02	10:20	4.5	2.41		MID		DHS9		8																
APR 07	18:40	4.5	2.19		MID		DHS9		14		295														
APR 10	09:55	5.0	1.71		MID		DHS9		17																
APR 14	13:25		1.31		MID		DHS9		14		364														
APR 17	15:43	5.5	1.00		MID		DHS9		15																
APR 22	10:35	7.0	1.08		MID		DHS9		10		364														
APR 22	10:53	7.0	1.08		MID		DHS9		11																
APR 29	07:05	8.5	0.851		MID		DHS9		8		404														
MAY 04	10:59	7.0	0.775		MID		DHS9		14																
MAY 07	13:55	8.0	2.13		MID		DHS9		19		438														
MAY 11	19:47	12.0	3.48		MID		DHS9		20																
MAY 14	07:10	14.0	7.02		MID		DHS9		43		509														
MAY 18	20:36	15.0	4.84		MID		DHS9		16																
MAY 25	20:24	16.0	1.74		MID		DHS9		13		589														
JUN 01	18:42	18.0	0.823		MID		DHS9		20		619														
JUN 10	14:04	19.0	0.313		MID		DH48		15		606														
JUN 12	17:32		0.263		MID		DH48		19																
JUN 23	08:12	18.0	0.097		MID		DH48		22		610														
JUN 27	17:04	18.0	0.283		MID		DH48		13																
JUN 30	11:04	19.0	0.320		MID		DH48		12		532														
JUL 04	07:53	19.0	0.180		MID		DH48		16																
JUL 10	12:44	22.0	0.085		MID		DHS9		19		552														
JUL 15	10:00	21.0	1.03		MID		DHS9		17																
JUL 23	08:34	21.5	2.92		MID		DHS9		26		598														
AUG 03	19:11	22.0	2.18		MID		DHS9		16		478														
AUG 12	13:35	22.0	0.374		MID		DHS9		23		437														
AUG 18	11:17	20.0	0.170		MID		DHS9		26		462														
AUG 18	10:00	21.0	0.248		MID		DHS9		22																
NOV 05	14:00	2.0	0.045		MID		DH48		14		557														
DEC 06	16:00	0.5	0.073	B	MID		DH48		11		732														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1986

TIME SYMBOL: E - ESTIMATED
DISCHARGE SYMBOL(S): B - ICE CONDITIONS W - DAILY MEAN, ICE CONDITIONS
CONCENTRATION SYMBOL(S): C - COARSE MATERIAL PRESENT

VERTICAL SYMBOL(S) Z - A SEDIMENT MEASUREMENT VERTICAL NOT AT THE REGULAR MEASUREMENT CROSS-SECTION

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MAR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1976	--CCCCCCCC--	MANUAL	70	APR 09	4	SEP 16	887	APR 12 *	8 880 *	36.3	36.3	---
1977	--CCCCCCCCCC	MANUAL	34	APR 13	8	JUN 21	0.59	MAY 22	16.3	0.07	16.2	99.5
1978	CCCCCCCCCCCC	MANUAL	20	APR 01	6	APR 18	4.81	APR 04	39.1	0.16	12.2	98.9
1979	CCCCCCCCCCCC	MANUAL	117	APR 23	0	JUL 15 *	312	APR 24	1 430	5.82	10.6	81.8
1980	CCCCCCCCCCCC	MANUAL	81	APR 18	8	APR 20	2.77	APR 18	7.85	0.03	8.48	83.1
1981	CCCCCCCCCCCC	MANUAL	17	APR 08	7	APR 28	7.83	FEB 27	25.5	0.04	7.07	83.7
1982	CCCCCCCCCCCC	MANUAL	84	APR 17	1	MAY 23	170	APR 17	606	2.47	8.41	78.7
1983	CCCCCCCCCCCC	MANUAL	27	APR 26	5	MAY 11	29.2	APR 26	285	1.16	5.76	76.7
1984	CCCCCCCCCCCC	MANUAL	21	MAR 25	2	APR 21	0.26	APR 02	5.27	0.02	5.12	77.1
1985	CCCCCCCCCCCC	MANUAL	167	NOV 07 *	2	APR 25	33.0	MAR 23	294	1.16	4.72	75.3
1986	CCCCCCCCCCCC	MANUAL	43	MAY 14	3	MAR 17	25.7	MAY 13	418	1.88	4.45	72.5

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH

* - EXTREME FOR PERIOD OF RECORD

MANITOBA

ASSINIBOINE RIVER AT HEADINGLEY - STATION NO. 05MJ001

SUSPENDED SEDIMENT FOR 1988

LOCATION LAT 49 52 05 N LONG 97 24 10 W
DRAINAGE AREA 153 000 km²
TYPE OF FLOW REGULATED
TYPE OF GAUGE RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 416 000 TONNES FOR THE PERIOD JAN 01 TO DEC 31

REMARKS

	JAN			FEB			MAR			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	25.2 B	51	111	23.2 B	51	102	25.8 B	41	91.4	1
2	25.2 B	52	113	25.5 B	51	112	28.3 B	41	93.2	2
3	24.3 B	52	109	26.0 B	50	112	26.1 B	40	90.2	3
4	24.9 B	52	112	25.5 B	50	110	25.6 B	40	88.5	4
5	25.6 B	53	117	25.0 B	49	106	25.5 B	39	85.9	5
6	25.6 B	53	117	24.6 B	49	104	25.7 B	39 S	86.6	6
7	25.6 B	54	119	23.6 B	49	99.9	25.7 B	40	88.8	7
8	25.5 B	54 S	118	23.1 B	48	95.8	26.1 B	40	90.2	8
9	25.7 B	54	120	24.0 B	48	99.5	26.5 B	39	89.3	9
10	25.8 B	54	120	24.1 B	48	99.9	26.6 B	40	91.9	10
11	25.5 B	54	119	24.1 B	47	97.8	26.5 B	41	93.9	11
12	25.4 B	54	119	24.6 B	47	99.9	25.8 B	40	89.2	12
13	25.4 B	54	119	24.7 B	46	98.2	25.0 B	40	86.4	13
14	25.4 B	54	119	24.0 B	46	95.4	24.8 B	40	85.7	14
15	25.4 B	54	119	24.2 B	46	96.2	25.6 B	39	86.3	15
16	25.1 B	54	117	25.3 B	45	98.4	25.8 B	42	93.6	16
17	24.5 B	53	112	26.3 B	45	102	28.0 B	43	96.6	17
18	24.2 B	53	111	26.3 B	45	102	25.8 B	42	93.8	18
19	25.1 B	53	115	25.9 B	44	98.5	25.8 B	42	93.6	19
20	25.5 B	53	117	25.3 B	44	96.2	28.8 B	43	107	20
21	25.4 B	53	116	24.7 B	44	93.9	33.8 B	43	126	21
22	25.1 B	53	115	24.4 B	43	90.7	36.2 B	43	134	22
23	24.6 B	53	113	25.4 B	43	94.4	40.6 B	44	154	23
24	24.0 B	53	110	26.4 B	43	98.1	48.6 B	50	210	24
25	24.2 B	53	111	26.9 B	42	97.8	61.8 B	55	293	25
26	25.3 B	52	114	26.8 B	42	97.3	86.5 B	61	455	26
27	25.5 B	52	115	26.5 B	42	96.5	105 B	71	644	27
28	24.8 B	52	111	25.8 B	41	91.4	144 B	83	1 030	28
29	25.0 B	52 S	112				189 B	91	1 580	29
30	25.2 B	52	113				225 B	98	1 920	30
31	23.0 B	51	101				238 B	111	2 260	31
TOTAL	777.0		3 565	702.3		2 785.7	1 738.1		10 608.9	TOTAL

	APR			MAY			JUN			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	250 B	193 S	4 170	178	459 S	7 060	112	307 S	2 970	1
2	198 B	571 S	9 770	189	476 S	7 770	109	309 S	2 810	2
3	210 B	745 S	13 500	179	426 S	6 590	104	288 S	2 590	3
4	263	758 S	16 600	160	368	5 080	92.4	279	2 230	4
5	267	1 080 S	24 900	145	311 S	3 900	84.8	304 S	2 490	5
6	176	891 S	15 200	152	293 S	3 850	94.5	312 S	2 550	6
7	164	876 S	13 400	189	344 S	5 620	91.9	293 S	2 330	7
8	182	750 S	11 600	185	239 S	3 820	89.0	277	2 130	8
9	189	656 S	10 700	183	184	2 590	83.7	258 S	1 870	9
10	191	574 S	9 470	185	231	3 290	78.1	236 S	1 590	10
11	191	529 S	8 730	152	290	3 810	78.4	228 S	1 540	11
12	185	495 S	7 910	151	265 S	3 480	77.7	225 S	1 510	12
13	181	469 S	7 330	157	222 S	3 010	75.2	218	1 420	13
14	173	451 S	6 740	150	196 S	2 640	71.8	213	1 320	14
15	166	431 S	6 180	143	174 S	2 150	69.6	210	1 260	15
16	150	414 S	5 370	152	158	2 070	67.4	208	1 210	16
17	133	363 S	4 170	173	217	3 240	65.9	202	1 150	17
18	123	314 S	3 340	190	237	3 890	64.5	195	1 090	18
19	122	246 S	2 590	192	223	3 700	63.0	191 S	1 040	19
20	131	267 S	3 020	189	211	3 450	63.0	184	1 000	20
21	139	324 S	3 890	185	191	3 050	62.1	177	950	21
22	140	260	3 140	180	171 S	2 660	61.0	167	880	22
23	149	242 S	3 120	174	142 S	2 130	58.4	161	812	23
24	153	251 S	3 320	167	116 S	1 670	53.5	157	728	24
25	149	252 S	3 240	160	98	1 350	44.5	151 S	581	25
26	144	256 S	3 180	152	89 S	1 300	42.6	147	541	26
27	140	261	3 180	143	129 S	1 590	41.4	144 S	515	27
28	139	262	3 150	136	183 S	1 820	39.9	139	479	28
29	139	264	3 170	128	233	2 580	35.3	134 S	408	29
30	144	312 S	3 880	116	290	2 810	33.1	128	366	30
31				112	304	2 940				31
TOTAL	5 073		217 150	5 007		105 000	2 115.6		42 418	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

MANITOBA

ASSINIBOINE RIVER AT HEADINGLEY - STATION NO. 05MJ001

SUSPENDED SEDIMENT FOR 1986

DAY	JUL DAILY DISCHARGE (m^3/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	AUG DAILY DISCHARGE (m^3/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	SEP DAILY DISCHARGE (m^3/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	DAY
1	33.1	121 S	346	25.5	130 S	286	16.0	76	105	1
2	31.8	112	308	25.9	123	275	15.8	77 S	104	2
3	30.3	98 S	257	25.6	117	259	15.4	75	99.8	3
4	31.1	97	261	25.3	112	245	15.4	73	97.1	4
5	29.7	99 S	254	24.8	107	229	15.5	71	95.1	5
6	26.8	102	237	24.2	100	209	15.5	70	93.7	6
7	26.0	99	222	23.6	97	198	15.5	68	91.1	7
8	26.4	94 S	214	23.3	95	191	15.5	66	88.4	8
9	25.5	93	205	23.2	94	188	15.4	66	87.8	9
10	25.9	154	345	22.7	95	186	15.3	66	87.2	10
11	42.9	313 S	1 160	21.6	94	175	15.2	66	86.7	11
12	59.1	302	1 540	20.4	94	166	15.1	64	83.5	12
13	56.8	254	1 240	20.2	94	164	14.9	64	82.4	13
14	53.4	216	997	20.2	92	161	14.9	67	86.3	14
15	46.2	188 S	750	19.1	91	150	14.8	67	85.7	15
16	40.1	183	634	18.5	90	144	14.8	64	81.8	16
17	35.0	180	544	18.6	89	143	14.8	63	80.6	17
18	32.0	177	489	18.9	87 S	142	14.8	66	84.4	18
19	31.1	175	470	19.2	77	128	14.9	64	82.4	19
20	30.2	171	446	19.3	68	113	24.0	102	212	20
21	29.3	168	425	19.3	61	102	34.1	124	365	21
22	29.5	166	423	19.3	58 S	96.7	34.3	108 S	320	22
23	30.0	163	422	19.2	58	96.2	31.0	86	257	23
24	29.0	161	403	19.1	58	95.7	27.9	88	212	24
25	28.0	159 S	385	19.0	58	95.2	26.8	79	183	25
26	27.0	141	329	18.8	58 S	94.2	21.3	88 S	125	26
27	25.8	103 S	230	18.5	61	97.5	17.8	88	89.7	27
28	24.2	93	194	18.1	73	114	17.2	85	81.7	28
29	22.7 A	106 S	206	17.7	82 S	125	15.9	81	70.1	29
30	25.4 A	128	281	17.2	80	119	15.8	69	85.9	30
31	25.4	134	294	16.6	78	109				31
TOTAL	1 009.8		14 513	642.9		4 895.5	555.2		3 685.4	TOTAL

DAY	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	NOV DAILY DISCHARGE (m^3/s)	NOV MEAN CONCENTRATION (mg/L)	NOV DAILY LOAD (t)	DEC DAILY DISCHARGE (m^3/s)	DEC MEAN CONCENTRATION (mg/L)	DEC DAILY LOAD (t)	DAY
1	13.4	43	49.8	25.4	105	230	19.8 B	55	94.1	1
2	9.01	37	28.8	24.2 B	103	215	19.5 B	55	92.7	2
3	9.92	34	29.1	21.6 B	101	188	19.3 B	55	91.7	3
4	10.6	34	31.1	19.3 B	99	165	18.8 B	55	89.3	4
5	11.1	37	36.6	17.0 B	98	144	18.6 B	55	88.4	5
6	14.2	39	47.8	20.5 B	98	174	18.7 B	55	88.9	6
7	18.1	42	58.4	35.7 B	93	287	19.2 B	55	91.2	7
8	21.8	46	86.6	22.8 B	86	169	19.6 B	55	93.1	8
9	25.9	51	114	17.1 B	86	127	19.5 B	55	92.7	9
10	24.6	56	119	15.4 B	80	106	19.4 B	55	92.2	10
11	22.5	52	113	13.8 B	68	81.1	19.4 B	55	92.2	11
12	22.0	64	122	12.1 B	61	63.8	19.4 B	55	92.2	12
13	21.6	71	133	12.6 B	60	65.3	19.4 B	55	92.2	13
14	22.8	77	152	14.3 B	59	72.9	19.4 B	55	92.2	14
15	24.6	81	172	14.8 B	59	75.4	19.6 B	55	92.7	15
16	25.1	83	180	16.5 B	59	84.1	19.5 B	50	84.2	16
17	25.1	83	180	17.2 B	59	87.7	19.5 B	50	84.2	17
18	24.5	83	176	19.9 B	58	99.7	19.5 B	50	84.2	18
19	23.0	85	169	22.1 B	58	111	19.6 B	50	84.7	19
20	22.6	89	174	20.0 B	58 S	100	19.6 B	50	84.7	20
21	22.9	93	184	17.5 B	58	87.7	19.9 B	50	86.0	21
22	24.0	96	199	15.7 B	58	78.7	20.2 B	50	87.3	22
23	23.9	99	204	15.4 B	58	77.2	20.3 B	50	87.7	23
24	24.3	103	216	15.7 B	58	78.7	20.4 B	50	88.1	24
25	25.7	104	231	16.0 B	58	80.2	20.4 B	50	88.1	25
26	26.1	104	235	17.0 B	58	85.2	20.3 B	50	87.7	26
27	26.2	103	233	18.1 B	58	90.7	20.2 B	50	87.3	27
28	26.0	102	225	19.0 B	58	95.2	20.7 B	50	89.4	28
29	25.7	107 S	238	19.5 B	58	97.7	21.0 B	50	90.7	29
30	25.6	108	239	19.9 B	58	99.7	20.8 B	50	89.9	30
31	25.8	108	239				20.6 B	50	89.0	31
TOTAL	666.43		4 618.1	556.1		3 517.0	612.0		2 769.0	TOTAL

A - MANUAL GAUGE B - ICE CONDITIONS S - SAMPLE(S) COLLECTED THIS DAY

MANITOBA

ASSINIBOINE RIVER AT HEADINGLEY - STATION NO. 05MJ001

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)		SINGLE VERTICAL SAMPLING [m]		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)		DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 08	10:00	0.5	25.5	B	75.0		DH48	54		718														
JAN 29	14:00	0.5	25.1	B	75.0		DH48	52		701														
MAR 06	09:50	0.5	5.74	B	45.0	M	DH48	40		710														
MAR 06	09:55	0.5	5.25	B	60.0	M	DH48	39		715														
MAR 06	10:00	0.5	5.61	B	75.0	M	DH48	39		699														
MAR 06	10:05	0.5	3.45	B	90.0	M	DH48	40		707														
MAR 06	10:10	0.5	5.64	B	105	M	DH48	38		702														
APR 01	17:10	3.0	31.8	B	130	M	DH59	198		243														
APR 01	17:12	3.0	37.1	B	110	M	DH59	231		286														
APR 01	17:14	3.0	29.5	B	95.0	M	DH59	236		287														
APR 01	17:16	3.0	32.6	B	75.0	M	DH59	245		288														
APR 01	17:18	3.0	54.2	B	55.0	M	DH59	245		284														
APR 02	17:10	1.0	198	W	75.0		DH59	714																
APR 03	13:58	1.0	210	W	75.0		DH59	803																
APR 04	09:00	1.0	56.5		120	M	DH59	537		277	21	27	44	66	85	93	98	100			7	66	27
APR 04	09:05	1.0	50.9		95.0	M	DH59	524		284	22	31	51	66	79	88	93	98	100		12	57	31
APR 04	09:10	1.0	38.7		75.0	M	DH59	572	-	285	21	32	48	60	77	87	93	99	100		13	55	32
APR 04	09:15	1.0	38.2		60.0	M	DH59	544		272	18	21	38	54	75	88	91	97	100		12	67	21
APR 04	09:20	1.0	40.1		45.0	M	DH59	527		272	22	33	51	65	79	87	91	97	100		13	54	33
APR 04	13:22	1.0	21.7		75.0		DH59	413																
APR 06	18:11	3.0	168		75.0		DH59	1040																
APR 09	14:20	7.0	46.7		120	M	DH59	631		328	28	41	65	79	91	96	99	100			4	55	41
APR 09	14:25	7.0	41.3		95.0	M	DH59	640		353	27	35	60	77	90	97	99	100			3	62	35
APR 09	14:30	7.0	33.0		75.0	M	DH59	642		338	30	36	60	76	90	95	99	100			5	59	36
APR 09	14:35	7.0	36.3		60.0	M	DH59	660		342	28	35	58	76	89	93	97	99	100		7	58	35
APR 09	14:40	7.0	35.1		40.0	M	DH59	653		342	27	39	59	76	91	96	98	100			4	57	39
APR 12	14:36	7.0	184		75.0		DH59	489																
APR 16	16:28	8.0	147		75.0		DH59	408		362														
APR 19	16:36	9.0	122		75.0		DH59	221																
APR 23	14:35	10.0	30.5		125	M	DH59	244		373														
APR 23	14:40	10.0	36.4		100	M	DH59	243		370														
APR 23	14:45	10.0	30.1		75.0	M	DH59	257		376														
APR 23	14:50	10.0	28.2		60.0	M	DH59	259		374														
APR 23	14:55	10.0	29.1		40.0	M	DH59	253		379														
MAY 06	18:24	11.0	180		75.0		DH59	313																
MAY 07	16:36	11.0	197		75.0		DH59	346																
MAY 08	16:33	12.0	177		75.0		DH59	221		404														
MAY 12	13:40	12.0	30.1		125	M	DH59	273		468														
MAY 12	13:45	12.0	36.3		100	M	DH59	286		466														
MAY 12	13:50	12.0	28.4		75.0	M	DH59	288		467														
MAY 12	13:55	12.0	27.6		60.0	M	DH59	287		464														
MAY 12	14:00	12.0	26.7		40.0	M	DH59	213		469														
MAY 12	18:35	12.0	154		75.0		DH59	230																
MAY 13	17:00	13.0	157		75.0		DH59	230																
MAY 14	18:10	13.0	148		75.0		DH59	204																
MAY 15	17:44	13.0	142		75.0		DH59	181																
MAY 22	16:16	12.0	178		75.0		DH59	175		475														
MAY 23	16:38	11.0	173		75.0		DH59	141																
MAY 24	18:11	12.0	166		75.0		DH59	111																
MAY 26	17:04	12.0	149		75.0		DH59	109																
MAY 28	16:15	12.0	135		75.0		DH59	169																
JUN 03	17:48	17.0	101		75.0		DH59	277																
JUN 06	17:00	17.0	93.8		75.0		DH59	301																
JUN 09	16:25	18.0	82.4		75.0		DH59	363																
JUN 19	14:05	23.0	14.0		120	M	DH59	198		505														
JUN 19	14:10	23.0	12.8		95.0	M	DH59	190		526														
JUN 19	14:15	23.0	11.8		75.0	M	DH59	179		528														
JUN 19	14:20	23.0	12.1		60.0	M	DH59	186		526														
JUN 19	14:25	23.0	11.2		40.0	M	DH59	189		520														
JUN 25	11:55	20.0	43.8		75.0		DH59	429																
JUN 27	20:59	20.0	41.1		75.0		DH59	242																
JUN 29	18:10	21.0	33.6		75.0		DH59	300																
JUL 01	18:00	21.0	32.9		75.0		DH59	258																
JUL 03	17:16	20.0	29.9		75.0		DH59	456		522														
JUL 05	18:03	21.0	29.0		75.0		DH59	98																
JUL 08	15:00	21.0	26.3		75.0		DH59	338		435														
JUL 11	14:22	20.0	48.3		75.0		DH59	336																
JUL 15	14:35	23.0	10.0		120	M	DH59	178		482														
JUL 15	14:40	23.0	9.80		95.0	M	DH59	170		491														
JUL 15	14:45	23.0	8.20		75.0	M	DH59	192		511														
JUL 15	14:50	23.0	8.10		60.0	M	DH59	187		530														
JUL 15	14:55	23.0	9.10		45.0	M	DH59	189		514														
JUL 25	14:23	23.0	28.0		75.0		DH59	166		541														
JUL 27	15:55	23.0	25.5		75.0		DH59	102																
JUL 29	11:30	24.0	22.7	V	75.0		DH59	109																
AUG 01	14:24	24.0	25.7		75.0		DH59	134		549														
AUG 18	13:40	22.0	3.53		115	M	DH59	88		552														
AUG 18	13:45	22.0	2.72		95.0	M	DH59	80		536														
AUG 18	13:50	22.0	4.08		75.0	M	DH59	91		583														
AUG 18	13:55	22.0	3.57		60.0	M	DH59	88		557														
AUG 18	14:00	22.0	2.84		40.0	M	DH59	89		583														
AUG 22	17:15	22.0	19.3		75.0		DH59	59																
AUG 26	18:00	22.0	18.7		75.0		DH59	59		617														
AUG 29	18:03	22.0	17.6		75.0		DH59	84																
SEP 02	18:11	20.0	15.5		75.0		DH59	299	C	588														
SEP 22	14:25	14.0	7.27		120	M	DH59	110		572														
SEP 22	14:30	14.0	7.48		95.0	M	DH59	117		585														
SEP 22	14:35	14.0	7.05		75.0	M	DH59	101		587														
SEP 22	14:40	14.0	7.68		60.0	M	DH59	110		558														
SEP 22	14:45	14.0	5.50		40.0	M	DH59	81		581														
SEP 26	12:25	14.0	21.5		75.0		DH59	85																
OCT 28	09:30	8.0	5.84		115	M	DH59	98		603														
OCT 28	09:35	8.0	5.21		95.0	M	DH59	108		585														
OCT 29	09:40	8.0	5.39		75.0	M	DH59	127		533														
OCT 29	09:45	8.0	5.40		60.0	M	DH59	108		605														
OCT 29	09:50	8.0	3.76		40.0	M	DH59	96		583														
NOV 20	14:45	0.5	19.4	B	75.0		DH48	58		840														

NOTE : SINGLE VERTICAL LOCATED AT 75.0 METRES FOR 1986

DISCHARGE SYMBOL(S): B - ICE CONDITIONS V - DAILY MEAN, MANUAL GAUGE W - DAILY MEAN; ICE CONDITIONS

CONCENTRATION SYMBOL(S): C - COARSE MATERIAL PRESENT

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

MANITOBA

ASSINIBOINE RIVER AT HEADINGLEY - STATION NO. 05MJ001

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			SAMPLED CONCENTRATION MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)			SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : JAN-DEC MEAN LOAD (TONNES)	SUMMARY : JAN-DEC HISTORICAL MEAN LOAD (TONNES)	SUMMARY : JAN-DEC STANDARD ERROR OF MEAN %
1956	---PCP-------	MANUAL	870	APR 25		110	MAY 31		40 200	APR 26		644 000	---	---	---
1957	---PCC-------	MANUAL	1 370	MAY 02		170	JUN 24		24 100	MAY 02		530 000	---	---	---
1958	---P---------	MANUAL	2 270	APR 08	*	125	APR 30		48 000	APR 06		286 000	---	---	---
1959	---P---------	MANUAL	1 890	APR 15		205	APR 30		19 300	APR 15		87 200	---	---	---
1961	---P--CCCCCC	MANUAL	780	APR 20		13	AUG 21		3 530	APR 19		17 500	---	---	---
1962	CCCCCCCCCCCC	MANUAL	1 410	APR 24		20	JAN 23		37 300	APR 24		283 000	776	776	---
1963	CCCCCCCCCCCC	MANUAL	1 480	APR 11		42	MAR 26		18 200	APR 11		257 000	705	741	6.8
1964	CCCCCCCCCCCC	MANUAL	1 490	APR 18		18	APR 10		28 400	APR 18		320 000	874	785	6.2
1965	CCCCCCCCCCCC	MANUAL	1 370	APR 18		22	NOV 25		37 200	APR 18		595 000	1 630	886	21.5
1966	CCCCCCCCCCCC	MANUAL	935	APR 13		20	FEB 14		22 900	APR 13		532 000	1 460	1 080	17.4
1967	CCCCCCCCCCCC	MANUAL	1 170	APR 20		14	DEC 01		32 200	APR 20		413 000	1 130	1 100	14.1
1968	CCCCCCCCCCCC	MANUAL	1 000	APR 12		11	NOV 20		13 000	APR 11		161 000	440	1 000	18.1
1969	CCCCCCCCCCCC	MANUAL	2 110	APR 15		4	MAR 21	*	56 900	APR 17	*	887 000	2 430	1 180	19.2
1970	CCCCCCCCCCCC	MANUAL	1 080	APR 30		27	OCT 07		24 600	APR 30		577 000	1 580	1 230	15.6
1971	CCCCCCCCCCCC	MANUAL	835	APR 17		28	MAR 26		9 980	APR 17		408 000	1 120	1 210	15.2
1972	CCCCCCCCCCCC	MANUAL	944	MAY 03		13	AUG 26		13 900	MAY 03		548 000	1 500	1 240	13.5
1973	CCCCCCCCCCCC	MANUAL	429	APR 05		42	FEB 14		2 320	APR 05		81 200	222	1 180	15.1
1974	CCCCCCCCCCCC	MANUAL	1 880	APR 23		88	OCT 21		49 400	APR 23		844 000	2 310	1 240	14.8
1975	CCCCCCCCCCCC	MANUAL	1 390	MAY 03		42	APR 03		21 600	MAY 03		835 000	2 290	1 320	14.1
1976	CCCCCCCCCCCC	MANUAL	1 220	APR 15		48	JAN 19		36 200	APR 15		1 090 000	2 980	1 430	14.3
1977	CCCCCCCCCCCC	MANUAL	204	APR 13		13	MAR 18		1 030	APR 13		46 700	128	1 350	15.4
1978	CCCCCCCCCCCC	MANUAL	1 180	APR 21		93	OCT 04		14 200	APR 21		232 000	637	1 310	15.3
1979	CCCCCCCCCCCC	MANUAL	1 180	APR 21		47	SEP 12		28 300	APR 26		1 020 000	2 800	1 390	14.6
1980	CCCCCCCCCCCC	MANUAL	845	APR 17		27	MAR 20		7 290	APR 17		106 000	290	1 330	15.3
1981	CCCCCCCCCCCC	MANUAL	308	APR 08		11	SEP 28		1 190	APR 02		35 700	97.7	1 270	15.9
1982	CCCCCCCCCCCC	MANUAL	1 180	APR 19		8	MAR 29		28 100	APR 18		265 000	727	1 240	15.7
1983	CCCCCCCCCCCC	MANUAL	985	APR 19		41	DEC 14		17 800	APR 19		485 000	1 270	1 240	14.9
1984	CCCCCCCCCCCC	MANUAL	859	JUN 20		10	MAR 22		3 540	JUN 22		91 500	250	1 200	15.2
1985	CCCCCCCCCCCC	MANUAL	1 500	JUN 13		28	NOV 26		18 000	APR 11		339 000	928	1 190	14.7
1986	CCCCCCCCCCCC	MANUAL	1 040	APR 06		38	MAR 06		24 900	APR 05		418 000	1 140	1 190	14.1

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MANITOBA

ASSINIBOINE RIVER NEAR HOLLAND - STATION NO. 05MH005

SUSPENDED SEDIMENT FOR 1985

LOCATION: LAT 49 41 54 N LONG 99 53 56 W
DRAINAGE AREA: 152 000 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 424 000 TONNES FOR THE PERIOD JAN 01 TO DEC 31

REMARKS:

	JAN			FEB			MAR			
DAY	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	26.8 B	32	74.1	27.4 B	33	78.1	25.7 B	31	71.5	1
2	25.2 B	32	69.7	26.8 B	33	76.8	27.1 B	31	72.8	2
3	26.6 B	33	75.6	26.1 B	33	74.4	27.7 B	31	74.2	3
4	26.2 B	33	74.7	24.0 B	33	68.4	26.5 B	31	71.0	4
5	26.8 B	34	78.7	25.9 B	33	73.8	27.6 B	31	73.9	5
6	25.8 B	35	78.0	26.7 B	33	76.1	26.2 B	31	70.2	6
7	26.0 B	35 S	78.6	25.1 B	33	71.6	25.1 B	31	67.2	7
8	27.3 B	35	82.6	25.2 B	33	74.7	24.8 B	31	66.4	8
9	28.2 B	35	85.3	26.1 B	33	74.4	22.8 B	31	61.1	9
10	28.3 B	35	85.6	23.7 B	33	67.6	24.7 B	31 S	66.2	10
11	28.9 B	35	87.4	24.7 B	33	70.4	24.5 B	30	63.5	11
12	28.4 B	35	85.9	26.6 B	32	73.5	24.4 B	31	65.4	12
13	27.3 B	34	80.2	27.9 B	32	77.1	25.2 B	33	71.9	13
14	25.9 B	34	76.1	27.0 B	32	74.6	24.5 B	28	59.3	14
15	27.1 B	34	79.6	26.5 B	32	73.3	24.0 B	31	64.3	15
16	28.6 B	34	84.0	25.3 B	32	69.9	30.1 B	33	85.8	16
17	28.8 B	34	84.6	25.2 B	32	69.7	36.8 B	33	105	17
18	29.0 B	34	85.2	24.3 B	32	67.2	40.5 B	32	112	18
19	28.9 B	34	84.9	26.1 B	32	72.2	44.0 B	32	122	19
20	27.5 B	34	80.8	27.7 B	33	78.6	51.7 B	38	170	20
21	26.6 B	34	78.1	28.4 B	33	78.5	58.7 B	43	218	21
22	27.5 B	34	80.8	27.6 B	32	76.3	70.3 B	51	310	22
23	28.4 B	34	83.4	27.4 B	33	75.8	101 B	64	558	23
24	28.2 B	34	82.8	26.3 B	32	72.7	95.7 B	74	637	24
25	28.1 B	33	80.1	26.6 B	31	71.2	145 B	84	1 050	25
26	27.1 B	33	77.3	27.4 B	32	75.8	163 B	96	1 350	26
27	26.6 B	33	73.0	27.6 B	32	76.3	148 B	123	1 570	27
28	23.5 B	33	67.0	26.6 B	31	71.2	144 B	166	2 070	28
29	27.4 B	33 S	78.1				140 B	311 S	3 760	29
30	28.1 B	33	80.1				186 B	878	15 700	30
31	27.3 B	33	77.8				195	912 S	15 400	31
TOTAL	846.3		2 473.1	737.0		2 057.2	2 035 B		44 238.5	TOTAL

	APR			MAY			JUN			
DAY	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	172	597 S	8 870	123	236 S	2 510	106	149 S	1 380	1
2	168	463	6 720	127	193 S	2 120	104	143 S	1 280	2
3	181	518 S	8 100	131	169 S	1 910	100	135 S	1 170	3
4	210	803 S	10 900	134	224 S	2 590	94.1	120 S	976	4
5	284	922 S	21 000	132	463 S	5 170	89.4	118 S	911	5
6	255	775 S	17 100	150	466 S	6 040	86.0	128 S	951	6
7	247	734 S	15 700	201	495 S	8 600	83.4	129 S	930	7
8	244	689 S	14 500	227	558 S	10 800	82.0	130	921	8
9	242	718 S	15 000	200	461 S	7 970	78.5	125 S	848	9
10	235	832 S	12 800	187	371 S	5 990	74.1	120 S	768	10
11	214	442 S	8 170	188	351 S	5 700	70.5	128 S	780	11
12	187	384 S	6 200	188	334 S	5 430	67.3	129 S	750	12
13	165	389 S	5 550	188	319 S	5 180	64.9	128	718	13
14	148	376 S	4 840	195	347 S	5 850	63.7	125 S	688	14
15	136	366 S	4 300	198	323 S	5 530	62.2	123 S	661	15
16	125	310 S	3 350	197	356 S	6 060	62.1	119 S	638	16
17	116 A	297 S	2 980	194	376 S	6 300	62.3	112 S	603	17
18	114 A	296 S	2 920	191	388 S	6 430	61.1	110 S	581	18
19	121 A	304 S	3 180	188	375 S	6 420	58.0	112	561	19
20	139 A	336 S	4 040	181	249 S	3 890	55.1	127 S	605	20
21	152 A	344 S	4 520	174	270 S	4 080	50.8	105 S	461	21
22	145 A	285 S	3 570	167	225 S	3 250	46.8	100 S	403	22
23	140	266 S	3 210	158	243 S	3 340	42.3	100 S	365	23
24	137	275 S	3 280	153	236 S	3 120	38.0	88 S	289	24
25	134	238 S	2 770	148	181 S	2 280	35.5	87 S	267	25
26	132	228 S	2 600	140	197 S	2 380	35.2	90 S	274	26
27	130	234 S	2 630	134	195 S	2 260	34.2	85 S	261	27
28	128	224 S	2 500	128	149 S	1 650	33.0	85 S	242	28
29	127	204 S	2 240	122	136 S	1 430	31.8	82 S	225	29
30	124	201 S	2 150	117	138 S	1 410	30.5	78	206	30
31				112	134 S	1 300				31
TOTAL	5 035		205 870	5 070		133 870	1 902.6		19 713	TOTAL

A - MANUAL GAUGE B - ICE CONDITIONS S - SAMPLE(S) COLLECTED THIS DAY

ASSINIBOINE RIVER NEAR HOLLAND - STATION NO. 05MH005

SUSPENDED SEDIMENT FOR 1986

DAY	JUL DAILY DISCHARGE (m^3/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	AUG DAILY DISCHARGE (m^3/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	SEP DAILY DISCHARGE (m^3/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	DAY
1	29.1	74 S	186	31.1	41	110	13.8	46 S	54.8	1
2	28.2	71	173	31.1	38 S	102	13.7	42	49.7	2
3	27.3	68	160	30.9	37	98.8	13.6	39	45.5	3
4	27.0	65	161	30.4	37 S	97.2	13.0	38	40.4	4
5	27.0	74	173	29.1	37	93.0	13.0	34	38.2	5
6	28.0	105 S	236	26.7	38	87.7	12.8	31	34.3	6
7	26.6	117	259	24.5	41 S	86.8	12.6	29	31.6	7
8	29.6	113	288	22.9	45	89.0	13.0	27 S	30.3	8
9	32.7	109	308	22.7	48	94.1	13.3	23	26.4	9
10	32.3	108	301	22.3	53 S	102	13.3	18	20.7	10
11	34.0	119	350	21.2	54	98.9	13.1	15 S	18.1	11
12	32.0	116	321	20.0	52	89.9	12.7	17	18.7	12
13	28.0	110	266	19.3	49 S	81.7	13.2	20	22.8	13
14	26.9	102 S	237	18.9	48	78.4	13.3	22	25.3	14
15	26.8	90 S	208	19.1	49 S	80.9	13.0	24	27.0	15
16	27.0	89	208	19.5	49	83.0	12.8	25	27.6	16
17	26.3	89	202	19.4	49	82.1	12.8	25 S	27.9	17
18	26.6	93	214	18.3	49	77.5	12.3	24	25.5	18
19	30.9	106 S	283	17.5	49	74.1	12.1	22	23.0	19
20	28.8	95	236	16.4	49	69.4	12.3	21	22.3	20
21	28.3	85 S	208	16.5	49	69.9	12.4	20	21.4	21
22	27.3	71	167	16.2	48	67.2	12.3	19	20.2	22
23	25.5	57 S	126	15.8	48	65.5	12.3	18	19.1	23
24	24.2	45	94.1	15.0	48	62.2	12.3	18 S	17.0	24
25	24.2	38 S	79.5	14.4	48	59.7	12.3	16	17.0	25
26	24.0	37	76.7	14.5	48	60.1	12.7	16	17.8	26
27	23.8	35 S	72.0	14.8	47	60.1	13.3	16	18.4	27
28	25.8	34	75.8	14.3	47	58.1	14.6	18	20.2	28
29	28.6	35	86.5	14.0	47	56.9	15.2	16	21.0	29
30	30.1	41 S	107	13.8	47	56.0	14.7	15	19.1	30
31	30.4	43	113	13.8	47	56.0				31
TOTAL	884.2		5 975.6	624.5		2 448.2	391.8		801.1	TOTAL

DAY	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	NOV DAILY DISCHARGE (m^3/s)	NOV MEAN CONCENTRATION (mg/L)	NOV DAILY LOAD (t)	DEC DAILY DISCHARGE (m^3/s)	DEC MEAN CONCENTRATION (mg/L)	DEC DAILY LOAD (t)	DAY
1	14.5	16	20.0	27.7	21	50.3	24.8 B	32	68.6	1
2	16.3	17	23.9	28.1	21	51.0	25.1 B	32	69.4	2
3	18.5	20	32.0	28.6 B	44	109	24.5 B	32	67.7	3
4	19.2	23	38.2	29.6 B	57 S	147	25.5 B	32	70.6	4
5	19.2	25	41.5	29.2 B	56	141	24.3 B	32	67.2	5
6	19.4	27	45.3	28.6 B	56	138	24.1 B	32	66.8	6
7	19.8	28	47.9	28.3 B	56	137	23.7 B	32	65.5	7
8	20.5	28	51.4	28.7 B	55	138	23.3 B	32	64.4	8
9	21.6	28	52.3	20.5 B	54	95.6	22.2 B	32	61.4	9
10	22.3	28	53.9	25.3 B	54	118	21.8 B	32	60.3	10
11	23.7	28	57.3	27.5 B	53	126	23.1 B	32	63.9	11
12	24.6	28	59.5	27.2 B	53	125	22.8 B	32	62.5	12
13	24.9	28	60.2	27.9 B	52	126	23.0 B	32	63.5	13
14	24.7	28	59.8	27.7 B	51	122	22.2 B	32	61.4	14
15	24.8	28	60.0	28.6 B	50	124	22.2 B	32	61.4	15
16	24.6	27	57.4	27.0 B	49	114	22.0 B	32	60.8	16
17	24.4	27	56.9	26.3 B	49	111	23.2 B	32	64.1	17
18	24.4	26	54.8	28.2 B	47	115	23.3 B	31	62.4	18
19	25.1	26	56.4	29.6 B	42	107	22.8 B	31	61.1	19
20	26.5	24	55.0	28.6 B	38	93.9	22.8 B	31	61.1	20
21	28.1	24	58.3	27.6 B	36	85.8	23.3 B	31	62.4	21
22	28.8	24	59.7	27.3 B	35	82.6	22.8 B	31	61.3	22
23	29.0	23	57.8	26.5 B	34	77.8	22.0 B	31	58.9	23
24	29.0	24	60.1	26.2 B	33 S	71.9	23.3 B	31	62.4	24
25	28.6	23	56.8	26.2 B	33	74.7	23.9 B	31	64.0	25
26	28.3	22	53.8	26.8 B	33	78.4	23.1 B	31	61.9	26
27	28.1	22	53.4	27.0 B	33	77.0	22.1 B	31	59.2	27
28	28.1	22	53.4	26.3 B	33	75.0	22.0 B	30	57.0	28
29	27.7	22	52.7	25.9 B	33	73.8	21.8 B	30	56.5	29
30	27.8	21	50.4	25.8 B	33	73.0	21.7 B	30	56.3	30
31	28.0	21	50.8				22.4 B	30	58.1	31
TOTAL	750.5		1 590.7	818.0		3 053.8	715.0		1 841.8	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

ASSINIBOINE RIVER NEAR HOLLAND - STATION NO 05MH005

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP (°C)	INSTANT. DISCHARGE (m³/s)		SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT CONCENT (mg/L)		DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 07	10:00	0.5	26.0	W	52.0	X	DH48	35		670														
JAN 28	11:00	0.5	27.4	W	52.0	X	DH48	33		681														
MAR 10	13:00	0.5	4.32	B	28.0	M	DH48	24		689														
MAR 10	13:05	0.5	4.66	B	40.0	M	DH48	54		621														
MAR 10	13:10	0.5	5.28	B	52.0	M	DH48	23		694														
MAR 10	13:15	0.5	5.83	B	64.0	M	DH48	24		668														
MAR 10	13:20	0.5	4.79	B	80.0	M	DH48	25		565														
MAR 29	11:20		140	W	MID		DH59	242		378														
MAR 31	14:00	3.0	184		MID		DH59	804																
APR 01	09:00	3.0	173		MID		DH59	581																
APR 01	12:45	4.0	22.9		88.0	M	DH59	579		318														
APR 01	12:50	4.0	31.6		72.0	M	DH59	835		340														
APR 01	12:55	4.0	37.5		56.0	M	DH59	887		328														
APR 01	13:00	4.0	44.1		40.0	M	DH59	544		332														
APR 01	13:05	4.0	35.4		24.0	M	DH59	450		345														
APR 01	13:45	3.0	172		MID		DH59	531		347														
APR 03	13:00	3.0	181		MID		DH59	505																
APR 04	11:00	3.0	205		MID		DH59	567																
APR 05	11:00	3.0	268		MID		DH59	1040																
APR 06	10:00	3.0	255		MID		DH59	800																
APR 07	08:30	5.0	246		MID		DH59	804																
APR 07	14:10	6.0	24.8		92.0	M	DH59	658		329	22	30	47	59	78	87	93	99	100			13	57	30
APR 07	14:15	6.0	39.4		76.0	M	DH59	755		326	18	21	39	52	66	79	83	95	100			21	58	21
APR 07	14:20	6.0	54.1		60.0	M	DH59	773		325	16	24	38	51	67	76	82	95	100			24	52	24
APR 07	14:25	6.0	67.6		44.0	M	DH59	734		342	15	23	38	53	71	80	85	98	100			20	57	23
APR 07	14:30	6.0	80.7		24.0	M	DH59	827		340	21	31	50	65	85	94	98	100				8	53	31
APR 07	15:00	6.0	247		MID		DH59	742		335	18	23	41	52	73	81	87	97	100			19	58	23
APR 08	09:00	5.0	244		MID		DH59	689																
APR 09	10:00	6.0	242		MID		DH59	722																
APR 10	08:00	7.0	236		MID		DH59	636																
APR 11	08:00	7.0	217		MID		DH59	430																
APR 12	09:30	5.0	188		MID		DH59	358																
APR 13	11:00	4.0	185		MID		DH59	365																
APR 14	08:00	2.0	150		MID		DH59	350		316														
APR 15	09:00	2.0	137		MID		DH59	346																
APR 16	09:30	4.0	126		MID		DH59	282																
APR 17	09:30	5.0	116	V	MID		DH59	286																
APR 18	10:00	6.0	114	V	MID		DH59	265																
APR 19	11:00	6.0	121	V	MID		DH59	286																
APR 20	11:30	5.0	139	V	MID		DH59	312																
APR 21	09:00	6.0	152	V	MID		DH59	319																
APR 22	11:00	7.0	145	V	MID		DH59	248																
APR 22	11:45	7.0	16.3		88.0	M	DH59	239		434														
APR 22	11:50	7.0	27.6		72.0	M	DH59	246		435														
APR 22	11:55	7.0	34.2		56.0	M	DH59	273		437														
APR 22	12:00	7.0	37.4		40.0	M	DH59	361		440														
APR 22	12:05	7.0	29.5		24.0	M	DH59	220		447														
APR 23	10:00	8.0	140		MID		DH59	241																
APR 24	09:00	9.0	137		MID		DH59	263																
APR 25	08:30	9.0	134		MID		DH59	222																
APR 26	10:30	8.0	132		MID		DH59	216																
APR 27	11:00	7.0	129		MID		DH59	225																
APR 28	10:30	8.0	129		MID		DH59	222																
APR 29	18:00	9.0	126		MID		DH59	201		416														
APR 30	19:00	8.0	123		MID		DH59	200																
MAY 01	10:00	8.0	123		MID		DH59	247																
MAY 02	10:00	9.0	123		MID		DH59	198																
MAY 03	11:00	10.0	131		MID		DH59	176																
MAY 04	12:00	13.0	134		MID		DH59	194																
MAY 05	10:00	11.0	124		MID		DH59	485		397														
MAY 06	10:00	8.0	145		MID		DH59	494																
MAY 07	10:00	9.0	197		MID		DH59	502																
MAY 08	10:00	8.0	230		MID		DH59	808		458	18	28	44	58	75	85	89	97	100			17	55	28
MAY 09	09:30	8.0	201		MID		DH59	517																
MAY 10	10:00		186		MID		DH59	393																
MAY 11	11:00		188		MID		DH59	380																
MAY 12	09:00		188		MID		DH59	354																
MAY 12	09:20	11.0	18.5		92.0	M	DH59	298		485														
MAY 12	09:25	11.0	37.9		72.0	M	DH59	341		471														
MAY 12	09:30	11.0	43.4		56.0	M	DH59	405		458														
MAY 12	09:35	11.0	45.3		40.0	M	DH59	308		464														
MAY 12	09:40	11.0	37.6		24.0	M	DH59	299		460														
MAY 12	10:00	11.0	188		MID		DH59	369		481														
MAY 13	10:00		187		MID		DH59	343																
MAY 14	08:00		193		MID		DH59	380																
MAY 15	12:30		198		MID		DH59	341																
MAY 16	09:00		197		MID		DH59	383																
MAY 17	11:30		194		MID		DH59	418																
MAY 18	11:00	12.0	191		MID		DH59	319																
MAY 19	10:30	14.0	188		MID		DH59	304		463														
MAY 20	07:00	14.0	182		MID		DH59	286																
MAY 21	10:00	15.0	175		MID		DH59	296																
MAY 22	09:00	15.0	168		MID		DH59	247																
MAY 23	09:00	15.0	180		MID		DH59	262																
MAY 24	08:30	16.0	154		MID		DH59	268																
MAY 25	10:00	17.0	146		MID		DH59	195																
MAY 26	08:30	17.0	141		MID		DH59	211		419														
MAY 27	10:00	18.0	134		MID		DH59	326	C															
MAY 28	09:00	20.0	129		MID		DH59	161																
MAY 29	10:00	22.0	122		MID		DH59	148																
MAY 30	09:00	23.0	118		MID		DH59	152																
MAY 31	09:00	21.0	113		MID		DH59	144																
JUN 01	09:00	19.0	107		MID		DH59	163		485														
JUN 02	09:00	19.0	104		MID		DH59	154																
JUN 03	09:00	19.0	100		MID		DH59	149																
JUN 04	09:00	19.0	94.7		MID		DH59	131																
JUN 05	19:00	19.0	87.7		MID		DH59	136																
JUN 06	09:00	19.0	86.0		MID		DH59	140																
JUN 07	09:00	18.0	83.2		MID		DH59	138		522														
JUN 08	09:00	19.0	78.8		MID		DH59	137																
JUN 10	08:00	18.0	74.6		MID		DH59	127																
JUN 11	09:00	18.0	70.7		MID		DH59	134																

NOTE SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

DISCHARGE SYMBOL(S) B - ICE CONDITIONS V - DAILY MEAN, MANUAL GAUGE W - DAILY MEAN, ICE CONDITIONS
CONCENTRATION SYMBOL(S): C - COARSE MATERIAL PRESENT

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL M - A SEDIMENT MEASUREMENT VERTICAL

CONTINUED

ASSINIBOINE RIVER NEAR HOLLAND - STATION NO. 05MH005 (CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	PERCENT SILT	PERCENT CLAY
JUN 12	09:00	16.0	67.8	MID	DH59	135															
JUN 14	09:00	17.0	63.8	MID	DH59	130	515														
JUN 15	10:00	17.0	61.8	MID	DH59	129															
JUN 16	09:00	16.0	62.2	MID	DH59	125															
JUN 17	09:00	17.0	62.4	MID	DH59	131															
JUN 18	10:50	20.0	4.11	88.0 M	DH59	104	505														
JUN 18	10:55	20.0	10.9	72.0 M	DH59	106	506														
JUN 18	11:00	20.0	14.7	60.0 M	DH59	122	514														
JUN 18	11:05	20.0	18.3	44.0 M	DH59	109	517														
JUN 18	11:10	20.0	13.8	28.0 M	DH59	108	513														
JUN 18	11:35	20.0	61.6	MID	DH59	118	514														
JUN 20	09:00	21.0	55.6	MID	DH59	135															
JUN 21	10:00	23.0	50.8	MID	DH59	110															
JUN 22	10:00	22.0	47.0	MID	DH59	106															
JUN 23	09:00	20.0	43.0	MID	DH59	108															
JUN 24	09:00	19.0	38.1	MID	DH59	94	507														
JUN 25	09:00	21.0	35.7	MID	DH59	92															
JUN 26	09:10	21.0	35.3	MID	DH59	94															
JUN 27	09:30	22.0	34.2	MID	DH59	103															
JUN 28	09:00	22.0	33.5	MID	DH59	90															
JUN 29	08:00	21.0	31.8	MID	DH59	86															
JUL 01	09:30	19.0	28.1	MID	DH59	78	538														
JUL 06	11:30	18.0	26.0	MID	DH59	115	574														
JUL 14	10:00	20.0	27.0	MID	DH59	112															
JUL 15	09:50	21.0	2.40	80.0 M	DH59	69	551														
JUL 15	09:55	21.0	5.13	88.0 M	DH59	86	556														
JUL 15	10:00	21.0	5.88	56.0 M	DH59	89	544														
JUL 15	10:05	21.0	7.52	44.0 M	DH59	89	545														
JUL 15	10:10	21.0	5.83	28.0 M	DH59	89	561														
JUL 15	10:30	21.0	28.7	MID	DH59	96	546														
JUL 18	10:00	22.0	31.3	MID	DH59	115															
JUL 21	10:00	21.0	28.4	MID	DH59	94	516														
JUL 23	10:00	24.0	25.5	MID	DH59	81															
JUL 25	10:00	22.0	24.2	MID	DH59	61															
JUL 27	10:00	22.0	24.0	MID	DH59	38															
JUL 30	10:30	22.0	30.3	MID	DH59	44	575														
AUG 02	10:00	20.0	31.0	MID	DH59	40															
AUG 04	09:00	21.0	30.3	MID	DH59	40															
AUG 07	09:00	20.0	25.0	MID	DH59	45	568														
AUG 10	09:00	18.0	22.3	MID	DH59	57															
AUG 13	10:00	22.0	19.2	MID	DH59	52															
AUG 15	09:50	23.0	1.75	80.0 M	DH59	28	563														
AUG 15	09:55	23.0	5.23	64.0 M	DH59	49	568														
AUG 15	10:00	23.0	4.56	52.0 M	DH59	52	568														
AUG 15	10:05	23.0	4.51	40.0 M	DH59	54	569														
AUG 15	10:10	23.0	2.70	28.0 M	DH59	46	572														
AUG 15	10:30	23.0	19.2	MID	DH59	53	565														
SEP 01	10:00		13.8	MID	DH59	51	538														
SEP 08	12:00	14.0	13.0	MID	DH59	30	526														
SEP 11	09:00	13.0	13.1	MID	DH59	17															
SEP 17	09:00	10.0	13.0	MID	DH59	27	497														
SEP 24	09:40	13.0	2.83	72.0 M	DH59	21	547														
SEP 24	09:50	13.0	3.36	56.0 M	DH59	14	542														
SEP 24	09:55	13.0	2.83	44.0 M	DH59	15	540														
SEP 24	10:00	13.0	2.32	36.0 M	DH59	15	542														
SEP 24	10:05	13.0	1.49	24.0 M	DH59	11	542														
SEP 24	10:30	13.0	12.1	MID	DH59	16	527														
NOV 04	11:00	1.0	5.43	76.0 M	DH59	56	578														
NOV 04	11:05	1.0	6.47	64.0 M	DH59	61	583														
NOV 04	11:10	1.0	6.34	52.0 M	DH59	59	583														
NOV 04	11:15	1.0	7.83	40.0 M	DH59	55	579														
NOV 04	11:20	1.0	4.50	24.0 M	DH59	42	578														
NOV 04	11:45	1.0	30.6 B	MID	DH59	57	586														
NOV 24	12:30	0.5	24.9 B	40.0 X	DH48	33	776														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1986

DISCHARGE SYMBOL(S) B - ICE CONDITIONS
VERTICAL SYMBOL(S) M - A SEDIMENT MEASUREMENT VERTICAL X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY JAN-DEC MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1970	------EEEEE-	MANUAL	743	JUL 28	16	OCT 12	6 310	JUL 28	112 000	---	---	---
1971	---EEEEE---	MANUAL	1 430	APR 17	20	SEP 17	22 800	APR 17	486 000	---	---	---
1972	---EEEEEEE-	MANUAL	1 300	APR 16	26	AUG 20	25 300	APR 19	701 000	---	---	---
1973	---EEEEE---	MANUAL	455	JUL 06	38	APR 30	1 070	JUL 06	38 000	---	---	---
1974	EEEEEEEEEEE	MANUAL	1 560	APR 20	6	FEB 12	98 600	APR 20 *	1 330 000	3 610	3 810	---
1975	EEEEEEEEEEE	MANUAL	1 340	APR 21	24	JAN 07	38 300	APR 30	1 340 000	3 670	3 840	0.8
1976	EEEEEEEEEEE	MANUAL	1 310	APR 06	23	OCT 29	86 400	APR 12	1 910 000 *	5 230	4 170	12.7
1977	EEEEEEEEEEE	MANUAL	128	MAY 22	14	MAR 14	529	JUL 13	44 700	122	3 160	34.2
1978	EEEEEEEEEEE	MANUAL	946	APR 10	19	JAN 12	14 500	APR 09	185 000	463	2 820	38.0
1979	EEEEEEEEEEE	MANUAL	2 670	APR 22	28	SEP 21	76 100	APR 23	1 630 000	4 470	2 930	29.7
1980	EEEEEEEEEEE	MANUAL	580	APR 17	22	OCT 31	4 570	APR 17	73 700	201	2 540	32.7
1981	EEEEEEEEEEE	MANUAL	200	AUG 27	20	JAN 05	483	AUG 25	33 100	90.7	2 230	35.1
1982	EEEEEEEEEEE	MANUAL	1 780	APR 16	6	OCT 18 *	37 000	APR 15	314 000	861	2 040	34.0
1983	EEEEEEEEEEE	MANUAL	1 250	APR 21	25	OCT 13	29 700	APR 11	575 000	1 580	2 030	31.3
1984	EEEEEEEEEEE	MANUAL	226	JUL 10	11	SEP 25	886	APR 05	45 800	135	1 880	32.3
1985	EEEEEEEEEEE	MANUAL	3 740	APR 30 *	17	NOV 27	13 100	APR 13	289 000	820	1 770	31.3
1986	P-PPPPPPP-P-	MANUAL	1 040	APR 05	11	SEP 24	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

E - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

EDWARDS CREEK DRAIN BELOW JACKFISH CREEK - STATION NO 05LJ047

SUSPENDED SEDIMENT FOR 1986

LOCATION LAT 51 08 30 N LONG 99 55 20 W
DRAINAGE AREA 311 km²
TYPE OF FLOW REGULATED
TYPE OF GAUGE RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 62 200 TONNES FOR THE PERIOD MAR 01 TO OCT 31

REMARKS

DAY	MAR DAILY DISCHARGE (m³/s)	MAR MEAN CONCENTRATION (mg/L)	MAR DAILY LOAD (t)	APR DAILY DISCHARGE (m³/s)	APR MEAN CONCENTRATION (mg/L)	APR DAILY LOAD (t)	MAY DAILY DISCHARGE (m³/s)	MAY MEAN CONCENTRATION (mg/L)	MAY DAILY LOAD (t)	DAY
1	0 B	0	0	5.94 B	201	103	4.36	170 S	64.0	1
2	0 B	0	0	5.50 B	203 S	96.5	3.86	131 S	44.8	2
3	0 B	0	0	3.98	196 S	67.1	7.86	488 S	332	3
4	0 B	0	0	3.26	167 S	47.0	13.8	1 370 S	1 610	4
5	0 B	0	0	3.77	209	68.1	24.5	2 830 S	5 570	5
6	0 B	0	0	4.20	269 S	97.6	78.5	5 190 S	35 600	6
7	0 B	0	0	6.18	738 S	393	37.5	1 580 S	5 120	7
8	0 B	0	0	5.81	592 S	297	18.5	1 610 S	3 050	8
9	0 B	0	0	5.11	720	318	15.8	1 490 S	2 030	9
10	0 B	0	0	5.43	830 S	286	13.9	1 350 S	1 820	10
11	0 B	0	0	5.01 B	430 S	187	8.82	788 S	600	11
12	0 B	0	0	4.50 B	302	117	7.08	385 S	236	12
13	0 B	0	0	3.79 B	233	76.3	5.78	310 S	155	13
14	0 B	0	0	2.79 B	178	43.1	4.83	241 S	101	14
15	0 B	0	0	2.48 B	130 S	27.9	4.75	222	91.1	15
16	0 B	0	0	2.25 B	158	30.7	4.15	176 S	63.1	16
17	0 B	0	0	3.89	490 S	165	3.64	123	38.7	17
18	0 B	0	0	10.2	1 110 S	978	3.25	97	27.2	18
19	0 B	0	0	11.8	1 140 S	1 160	2.95	85 S	21.7	19
20	0 B	0	0	6.27	579	314	2.62	69	15.8	20
21	0 100 B	18	0.16	3.88	227	76.1	2.28	54 S	10.6	21
22	8.52 B	81 S	57.1	3.41	143 S	42.1	1.99	52	8.94	22
23	2.96 B	37 S	9.46	3.52	132	40.1	1.72	86 S	9.61	23
24	1.70 B	18 S	2.64	3.44	114	33.8	1.52	48	5.44	24
25	1.08 B	6 S	0.56	2.87	81	20.1	1.39	35	3.00	25
26	0 985 B	6 S	0.51	2.51	58 S	12.8	1.24	17 S	1.82	26
27	3.17 B	22 S	6.03	2.41	50	10.4	1.08	16	1.48	27
28	23.6 B	71 S	145	2.68	71 S	16.4	0.932	16	1.29	28
29	14.6 B	83 S	79.5	3.29	84 S	26.7	0.787	16 S	1.10	29
30	12.1 B	62 S	64.8	4.65	351 S	138	0.710	16	0.98	30
31	8.55 B	131 S	86.8				0.656	15	0.72	31
TOTAL	77 375		472.56	134.82		5 301.7	282.395		86 436.39	TOTAL

DAY	JUN DAILY DISCHARGE (m³/s)	JUN MEAN CONCENTRATION (mg/L)	JUN DAILY LOAD (t)	JUL DAILY DISCHARGE (m³/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	AUG DAILY DISCHARGE (m³/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	DAY
1	0.484	15	0.63	0.139	8	0.10	0.078	5	0.03	1
2	0.611	17	0.90	0.153	9	0.12	0.079	5	0.03	2
3	0.707	18	1.10	0.105	7	0.06	0.102	8	0.05	3
4	0.437	14	0.53	0.077	7	0.05	0.323	15	0.45	4
5	0.493	13	0.51	0.202	11	0.19	0.226	11	0.21	5
6	0.429	13 S	0.48	0.259	11	0.25	0.288	15	0.40	6
7	0.391	12	0.41	0.186	8	0.14	0.545	28	1.32	7
8	0.307	11	0.29	0.125	7	0.08	0.304	18	0.47	8
9	0.352	11	0.33	0.093	6	0.05	0.139	14	0.17	9
10	0.653	15	0.85	0.100	8 S	0.05	0.104	13	0.12	10
11	0.524	12	0.54	0.220	8	0.15	0.085	13	0.10	11
12	0.394	12	0.41	0.257	10	0.26	0.076	13	0.08	12
13	0.353	11	0.34	0.248	8	0.17	0.059	13	0.07	13
14	0.300	11	0.28	0.156	6	0.10	0.059	13	0.08	14
15	0.270	10	0.23	0.140	8 S	0.07	0.085	13	0.11	15
16	0.274	9	0.21	0.100	6	0.06	0.062	13	0.06	16
17	0.275	9	0.21	0.127	6	0.07	0.032	12	0.03	17
18	0.216	9	0.17	0.085	6	0.04	0.032	11 S	0.03	18
19	0.234	8	0.16	0.064	5	0.03	0.026	11	0.02	19
20	0.235	8	0.16	0.072	5	0.03	0.023	11	0.02	20
21	0.224	8	0.15	0.088	5	0.04	0.020	11	0.02	21
22	0.218	8	0.15	0.069	5	0.03	0.027	11	0.03	22
23	0.219	8	0.15	0.056	5	0.02	0.030	10	0.02	23
24	0.221	8	0.15	0.043	5	0.02	0.018	11	0.02	24
25	0.179	8	0.12	0.048	5	0.02	0.018	10	0.02	25
26	0.184	8	0.13	0.078	8 S	0.05	0.017	10	0.01	26
27	0.234	8	0.16	0.140	8	0.07	0.017	10	0.01	27
28	0.181	8	0.13	0.083	5	0.04	0.017	9	0.01	28
29	0.168	7	0.10	0.065	5	0.03	0.016	9	0.01	29
30	0.154	7	0.09	0.070	5	0.03	0.014	8	0.01	30
31				0.068	5	0.03	0.011	9	0.01	31
TOTAL	9.881		10.08	3.857		2.47	2.923		4.02	TOTAL

B - ICE CONDITIONS S - SAMPLE(S) COLLECTED THIS DAY

EDWARDS CREEK DRAIN BELOW JACKFISH CREEK - STATION NO 05LJ047

SUSPENDED SEDIMENT FOR 1986

DAY	SEP DAILY DISCHARGE (m^3/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	0.011	9	0.01	0.076	13	0.09				1
2	0.012	9	0.01	0.083	12	0.10				2
3	0.011	9	0.01	0.284	17	0.39				3
4	0.009	10	0.01	0.269	15	0.35				4
5	0.011	10	0.01	0.228	14	0.28				5
6	0.013	11	0.01	0.203	13	0.23				6
7	0.011	11	0.01	0.186	13	0.21				7
8	0.009	11 S	0.01	0.190	12	0.20				8
9	0.014	11	0.01	0.200	13	0.22				9
10	0.013	12	0.01	0.208	13	0.23				10
11	0.013	11	0.01	0.214	13	0.24				11
12	0.017	11	0.02	0.208	13	0.23				12
13	0.015	10	0.01	0.193	13	0.22				13
14	0.014	9	0.01	0.181	13	0.20				14
15	0.026	9	0.02	0.183	13	0.21				15
16	0.026	9	0.02	0.156	13	0.18				16
17	0.028	8	0.02	0.163	13	0.18				17
18	0.033	8	0.02	0.150	12	0.16				18
19	0.034	7	0.02	0.148	13	0.17				19
20	0.031	7	0.02	0.147	12	0.15				20
21	0.034	7	0.02	0.148	12	0.15				21
22	0.048	7 S	0.03	0.118	12	0.12				22
23	0.041	7	0.02	0.134	12	0.14				23
24	0.034	7	0.02	0.139	12	0.14				24
25	0.106	18	0.16	0.125	11	0.12				25
26	0.595	29 S	1.48	0.083	11 S	0.09				26
27	0.426	15	0.55	0.104	11	0.10				27
28	0.248	14	0.30	0.101	11	0.10				28
29	0.187	14	0.20	0.082	11	0.08				29
30	0.112	13	0.13	0.079 B	10	0.07				30
31				0.074 B	10	0.06				31
TOTAL	2.163		3.19	4.861		5.41				TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

EDWARDS CREEK DRAIN BELOW JACKFISH CREEK - STATION NO. 05LJ047

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT DISCHARGE (m³/s)		SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 22	14 15	2.0	8.53	W	33.0		DH59	109	139														
MAR 23	13 15	1.0	2.96	W	33.0		DH59	28															
MAR 23	17 34	1.0	2.96	W	33.0		DH59	37															
MAR 24	11 00	1.0	1.70	W	WELB	X	DIP	13															
MAR 25	08 15	1.0	1.08	W	WELB	X	DIP	7															
MAR 26	17 30	1.0	0.985	W	WELB	X	DIP	8															
MAR 27	11 35	4.0	3.17	W	WELB	X	DIP	11															
MAR 28	08 30	2.0	21.7	B	33.0		DH59	73															
MAR 29	13 52	3.0	13.4	B	33.0		DH59	61															
MAR 29	18 30	1.0	13.1	B	33.0		DH59	58	218														
MAR 30	13 10	1.0	11.9	B	33.0		DH59	54															
MAR 31	19 30	1.0	8.85	B	33.0		DH59	199															
APR 02	20 00	1.0	4.98	B	33.0		DH59	162	291														
APR 03	19 32	1.0	4.20		33.0		DH59	180															
APR 04	12 30	3.0	3.46		33.0		DH59	138	316														
APR 04	14 47	3.0	3.45		33.0		DH59	151															
APR 04	15 45	3.0	0.721		5.4	M	DH48	176	307														
APR 04	15 50	3.0	0.585		5.8	M	DH48	175	307														
APR 04	15 55	3.0	0.805		4.8	M	DH48	185	299														
APR 04	16 00	3.0	0.856		4.0	M	DH48	163	308														
APR 04	16 05	3.0	0.771		3.2	M	DH48	185	302														
APR 08	09 36	2.0	4.23		33.0		DH59	198	309	37	56	76	89	93	97	99	100				3	38	58
APR 08	18 25	5.0	4.29		33.0		DH59	351	298	24	33	55	75	93	97	98	100				3	64	33
APR 07	08 30	4.0	6.20		33.0		DH59	849	280	29	52	76	87	96	97	99	100				3	45	52
APR 07	19 00	5.0	5.89		33.0		DH59	552	273	26	43	64	80	93	97	99	100				3	54	43
APR 08	09 15	2.0	5.52		33.0		DH59	497	265	36	59	80	86	95	98	98	100				4	37	59
APR 08	19 30	1.0	5.81		33.0		DH59	690	283	26	32	54	71	89	96	98	100				4	64	32
APR 10	08 10	4.0	5.83		33.0		DH59	735	263	29	44	70	87	98	98	100					2	54	44
APR 10	14 25	5.0	4.97		33.0		DH59	524	272	34	53	74	89	97	98	100					2	45	53
APR 11	18 48	1.0	4.41		WELB	X	DIP	371															
APR 15	17 30	1.0	2.24		33.0		DH59	125															
APR 17	08 00	2.0	3.52		33.0		DH59	478															
APR 18	10 30	5.0	7.93		33.0		DH59	765	319	16	38	48	75	89	98	98	99	100			4	80	36
APR 19	10 30	4.0	11.7		33.0		DH59	1150	289	26	38	59	75	88	95	96	99	100			5	57	38
APR 22	12 30	8.0	3.34		33.0		DH59	139															
APR 26	16 00	6.0	2.41		33.0		DH59	53	371														
APR 26	16 45	6.0	2.85		33.0		DH59	74	354														
APR 29	19 30	10.0	3.16		33.0		DH59	79	398														
APR 30	17 00	3.0	4.86		33.0		DH59	507	321	31	44	66	82	97	98	99	100				2	54	44
MAY 01	07 30	6.0	4.38		33.0		DH59	168	370														
MAY 02	15 45	9.0	3.51		33.0		DH59	98	405														
MAY 03	17 38	14.0	7.80		33.0		DH59	399	398														
MAY 04	07 30	9.0	15.8		33.0		DH59	1650	295	18	28	48	65	83	88	98	99	100			12	80	28
MAY 04	18 30	11.0	11.9		33.0		DH59	885	304	26	43	61	77	90	94	97	99	100			6	51	43
MAY 05	07 30	8.0	8.78		33.0		DH59	757	302	32	41	58	70	78	83	85	92	98	100		17	42	41
MAY 05	18 30	4.0	37.5		33.0		DH59	4140	301	18	23	35	48	69	85	95	100				15	52	33
MAY 06	09 00	1.0	82.2		33.0		DH59	8040	238	10	25	38	47	54	58	63	82	99	100		42	33	25
MAY 06	13 00	5.0	72.8		33.0		DH59	3040	270	7	22	45	67	85	91	93	97	100			28	49	22
MAY 06	15 30	8.0	66.2		33.0		DH59	2010	233	27	38	49	58	69	76	83	94	100			24	38	38
MAY 07	08 05	3.5	19.8		33.0		DH59	1630	249	28	45	61	75	85	90	94	98	100			10	45	45
MAY 07	18 45	10.0	26.1		33.0		DH59	1420	288	32	47	64	75	88	92	93	97	100			8	45	47
MAY 08	08 45	7.0	19.3		33.0		DH59	1970	264	17	41	63	77	88	93	95	98	100			7	52	41
MAY 09	08 00	6.0	14.7		33.0		DH59	1460	280	23	46	65	78	90	94	95	98	100			8	46	46
MAY 09	19 00	8.0	15.6		33.0		DH59	1490	288	13	28	60	72	88	95	98	100				5	66	29
MAY 10	09 30	8.0	14.8		33.0		DH59	1190	292	19	34	53	70	83	89	92	98	100			11	55	34
MAY 10	18 15	4.0	11.6		33.0		DH59	1360	291	15	30	44	53	61	64	67	79	98	100		36	34	30
MAY 11	15 20	14.0	8.38		33.0		DH59	663	312	36	47	68	80	87	88	89	93	100			13	41	47
MAY 12	19 15		8.62		33.0		DH59	374															
MAY 13	21 00		6.37		33.0		DH59	280	341														
MAY 14	10 45		4.76		33.0		DH59	239															
MAY 16	08 30		4.24		33.0		DH59	185															
MAY 19	20 00		2.82		33.0		DH59	80	368														
MAY 21	19 20		2.16		33.0		DH59	48															
MAY 23	11 40		1.72		33.0		DH59	58															
MAY 28	11 45	17.0	1.23		33.0		DH59	17	382														
JUL 10	08 00	20.0	0.084		33.0		DH59	6															
JUL 15	15 50	24.0	0.148		33.0		DH59	6	445														
AUG 18	11 55	21.0	0.028		33.0		DH59	11	571														
SEP 08	08 30	13.0	0.008		33.0		DH59	11	1100														
SEP 22	12 45	12.0	0.045		33.0		DH59	7	787														
SEP 26	10 30	11.0	0.582		33.0		DH59	28															
OCT 26	13 30	12.0	0.109		33.0		DH59	11	470														
NOV 06	14 30	1.0		B	MID	X	DIP	7															

NOTE SINGLE VERTICAL LOCATED AT 33 METRES FOR 1986

DISCHARGE SYMBOL(S) B - ICE CONDITIONS W - DAILY MEAN, ICE CONDITIONS
VERTICAL SYMBOL(S) X - NOT AT REGULAR SINGLE SAMPLE VERTICAL M - A SEDIMENT MEASUREMENT VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY MAR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1980	--EEEEEEEE--	MANUAL	658	APR 19	7	OCT 06	351	APR 19	1 810	6.55	6.55	---
1981	--EEEEEEEE--	MANUAL	1 920	JUN 15	3	JUL 25 *	885	JUN 15	6 080	24.8	15.7	58.1
1982	--EEEEEEEE--	MANUAL	1 720	APR 23	4	SEP 20	2 080	APR 23	9 780	39.8	23.7	40.6
1983	--EEEEEEEE--	MANUAL	2 530	MAY 18	3	APR 11	3 340	APR 25	21 200	85.7	39.5	43.4
1984	--EEEEEEEE--	MANUAL	2 140	MAY 11	4	MAR 29	740	MAY 11	4 490	18.3	35.2	39.6
1985	--EEEEEEEE--	MANUAL	1 700	APR 18	4	SEP 08	3 000	APR 20	18 100	73.9	41.7	31.4
1986	--EEEEEEEEP-	MANUAL	8 040	MAY 08 *	5	JUL 10	35 800	MAY 08 *	83 200 *	254	72.0	44.8

MANUAL - MANUAL SAMPLING

E - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ODEI RIVER NEAR THOMPSON - STATION NO. 05TG003

SUSPENDED SEDIMENT FOR 1985

LOCATION LAT 55 59 45 N LONG 97 21 23 W
DRAINAGE AREA 6 130 km²
TYPE OF FLOW NATURAL
TYPE OF GAUGE RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 136 000 TONNES FOR THE PERIOD MAY 01 TO SEP 30

REMARKS

DAY	MAY DAILY DISCHARGE (m³/s)	MAY MEAN CONCENTRATION (mg/L)	MAY DAILY LOAD (t)	JUN DAILY DISCHARGE (m³/s)	JUN MEAN CONCENTRATION (mg/L)	JUN DAILY LOAD (t)	JUL DAILY DISCHARGE (m³/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	DAY
1	42.1 E	28 E	102	100	66 S	570	56.6	71 S	347	1
2	52.7 E	33 E	150	93.2	62	489	54.4	74	348	2
3	65.2 E	41 E	231	87.5	57 S	431	52.9	68 S	311	3
4	81.8 E	51 E	380	82.2	53	376	56.7	80 S	394	4
5	101 E	65 E	567	78.2	50 S	338	61.7	82	331	5
6	126 E	82 E	893	73.6	50 S	316	83 S	78 S	570	6
7	149 E	100 E	1 290	70.2	50	303	112	104	1 010	7
8	174 E	118 E	1 770	66.2	51 S	292	138	134 S	1 610	8
9	196 E	142 E	2 400	64.3	53	294	156	167	2 250	9
10	213 E	166 E	3 050	63 S	56 S	307	165	170 S	2 420	10
11	235 E	190 E	3 860	63.0	63	343	165	121 S	1 720	11
12	254 A	215	4 720	67.6	72 S	421	158	104	1 420	12
13	272 E	236 E	5 550	78.4	84 S	589	144	94 S	1 170	13
14	287 A	243 S	6 030	94.9	106	869	130	88	966	14
15	286 A	238 S	6 090	108	112 S	1 050	117	82 S	829	15
16	305	218 S	5 770	115	104	1 030	108	82	765	16
17	309	198 S	5 280	118	97 S	972	101	75 S	689	17
18	310	153 S	4 100	113	90	878	88.1	65 S	551	18
19	309	138 S	3 710	107	82 S	758	88.6	57	485	19
20	305	137 S	3 610	100	75 S	648	108	76 S	698	20
21	285	121	3 080	93.7	72	583	116	141	1 410	21
22	281	96 S	2 330	86.4	72 S	537	121	200 S	2 080	22
23	264	88	1 980	80.8	73	508	127	185	2 030	23
24	243	82 S	1 720	74.8	71	458	130	114 S	1 280	24
25	220	78	1 480	70.6	66	403	135	80 S	700	25
26	197	78 S	1 280	67.3	80 S	349	140	49	593	26
27	174	87 S	1 250	64.4	55 S	308	142	62 S	761	27
28	153	70 S	925	61.9	57	305	138	66 S	783	28
29	135	64 S	746	59.8	61 S	315	132	56 S	639	29
30	120	68 S	705	58.5	66	334	124	51	548	30
31	109	89	850				117	49 S	495	31
TOTAL	6 273.6		75 879	2 459.8		15 366	3 586.4		30 119	TOTAL

DAY	AUG DAILY DISCHARGE (m³/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	SEP DAILY DISCHARGE (m³/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	113	50	486	58.5	47	238				1
2	109	50	471	56.2	47 S	228				2
3	104	49 S	440	54.1	46	210				3
4	97.8	48	405	53.7	44 S	204				4
5	92.1	47 S	374	53.4	47 S	217				5
6	87.3	44 S	332	53.9	49	228				6
7	84.8	41 S	300	54.8	47 S	223				7
8	81.8	43 S	304	54.7	47	222				8
9	78.9	49	334	54.7	48 S	232				9
10	76.1	52 S	337	55.3	48	229				10
11	71.4	48	296	55.7	43 S	207				11
12	68.4	44 S	260	55.3	39 S	186				12
13	66.0	43	245	54.6	37	175				13
14	63.3	42 S	230	54.0	36 S	168				14
15	62.2	41 S	220	53.1	37	170				15
16	62.2	40	215	51.5	40 S	179				16
17	62.8	41 S	223	51.3	44	195				17
18	64.5	47	262	50.3	45 S	196				18
19	64.7	54 S	302	49.7	45	193				19
20	64.8	56	314	48.8	44	186				20
21	65.3	55 S	315	48.2	42	175				21
22	69.8	51 S	308	47.7	38	161				22
23	73.8	46	289	47.2	35	143				23
24	76.2	41 S	266	46.4	33 S	132				24
25	76.0	36	236	45.4	31	122				25
26	74.5	34 S	219	44.8	30	116				26
27	72.8	38	239	43.6	29	109				27
28	70.4	44 S	266	42.6	29	107				28
29	68.2	41 S	242	42.5	28	103				29
30	65.6	41	232	42.5	28	103				30
31	62.1	45 S	241							31
TOTAL	2 347.8		9 208	1 525.5		5 357				TOTAL

A - MANUAL GAUGE E - ESTIMATED S - SAMPLE(S) COLLECTED THIS DAY

ODEI RIVER NEAR THOMPSON - STATION NO. 05TG003

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP (°C)	INSTANT DISCHARGE (m^3/s)		SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 14	10:59		285	E	60.0		PUMP	245															
MAY 14	12:00		288		60.0		PUMP	238															
MAY 14	13:20	4.0	89.8		35.0	M	DH59	253	117														
MAY 14	13:30	4.0	61.3		44.0	M	DH59	249	124														
MAY 14	13:38	4.0	288		52.0		DH59	239	112														
MAY 14	13:42	4.0	58.5		58.0	M	DH59	240	112														
MAY 14	13:47	4.0	42.9		58.0	M	DH59	241	117														
MAY 14	13:52	4.0	55.4		60.0	M	DH59	240	111														
MAY 15	12:00		286		60.0		PUMP	241															
MAY 16	12:00		305		60.0		PUMP	222															
MAY 17	12:00		309		60.0		PUMP	206															
MAY 18	12:00		310		60.0		PUMP	156															
MAY 19	12:00		309		60.0		PUMP	142															
MAY 20	12:00		305		60.0		PUMP	142															
MAY 21	11:40	9.0	304		32.0		DH59	104	115														
MAY 22	14:00		280		60.0		PUMP	97															
MAY 24	12:00		243		60.0		PUMP	85															
MAY 26	12:00		197		60.0		PUMP	80															
MAY 27	12:00		174		60.0		PUMP	89															
MAY 28	12:00		154		60.0		PUMP	71															
MAY 29	12:00		135		60.0		PUMP	86															
MAY 30	12:00		119		60.0		PUMP	71															
JUN 01	12:00		100		60.0		PUMP	68															
JUN 03	12:00		88.0		60.0		PUMP	60															
JUN 05	12:00		78.2		60.0		PUMP	55															
JUN 06	12:00		73.7		60.0		PUMP	54															
JUN 08	12:00		86.1		60.0		PUMP	55															
JUN 10	12:00		63.2		60.0		PUMP	61															
JUN 12	12:00		88.1		60.0		PUMP	80															
JUN 13	12:00		77.9		60.0		PUMP	94															
JUN 15	12:00		108		60.0		PUMP	125															
JUN 17	12:00		116		60.0		PUMP	110															
JUN 19	12:00		107		60.0		PUMP	92															
JUN 20	12:00		101		60.0		PUMP	86															
JUN 22	12:00		86.5		60.0		PUMP	81															
JUN 26	12:00		87.5		60.0		PUMP	69															
JUN 27	12:00		84.8		60.0		PUMP	63															
JUN 28	12:00		80.3		60.0		PUMP	71															
JUL 01	12:00		58.4		60.0		PUMP	84															
JUL 03	12:00		52.7		60.0		PUMP	80															
JUL 04	12:00		56.4		60.0		PUMP	70															
JUL 06	12:00		82.1		60.0		PUMP	93															
JUL 08	12:00		139		60.0		PUMP	159															
JUL 10	12:00		164		60.0		PUMP	212															
JUL 11	12:00		184		60.0		PUMP	142															
JUL 13	12:00		145		60.0		PUMP	114															
JUL 15	12:00		117		60.0		PUMP	98															
JUL 17	12:00		101		60.0		PUMP	95															
JUL 18	12:00		97.2		60.0		PUMP	80															
JUL 20	12:00		106		60.0		PUMP	88															
JUL 22	12:00		121		60.0		PUMP	259															
JUL 24	12:00		129		60.0		PUMP	142															
JUL 25	12:00		134		60.0		PUMP	67															
JUL 27	12:00		141		60.0		PUMP	27															
JUL 28	10:28		138		60.0		PUMP	84															
JUL 29	12:00		132		60.0		PUMP	70															
JUL 31	12:00		117		60.0		PUMP	62															
AUG 03	12:00		103		60.0		PUMP	62															
AUG 05	12:00		91.5		60.0		PUMP	61															
AUG 06	10:05		88.1		60.0		PUMP	56															
AUG 06	10:43	18.0	18.6		14.0	M	DH59	46	134														
AUG 06	10:48	18.0	20.6		26.0	M	DH59	44	137														
AUG 06	10:54	18.0	85.7		33.0		DH59	42	136														
AUG 06	11:03	18.0	19.4		37.0	M	DH59	43	139														
AUG 06	11:08	18.0	20.9		50.0	M	DH59	43	131														
AUG 06	11:18	18.0	18.3		57.0	M	DH59	44	162														
AUG 07	12:00		84.4		60.0		PUMP	52															
AUG 08	12:00		81.5		60.0		PUMP	55															
AUG 10	12:00		74.5		60.0		PUMP	68															
AUG 12	12:00		88.2		60.0		PUMP	97															
AUG 14	12:00		83.1		60.0		PUMP	55															
AUG 15	12:00		82.3		60.0		PUMP	54															
AUG 17	12:00		82.7		60.0		PUMP	53															
AUG 18	12:00		83.9		60.0		PUMP	72															
AUG 21	12:00		85.8		60.0		PUMP	73															
AUG 22	12:00		89.5		60.0		PUMP	67															
AUG 24	12:00		74.8		60.0		PUMP	54															
AUG 26	12:00		74.4		60.0		PUMP	45															
AUG 28	12:00		70.0		60.0		PUMP	59															
AUG 29	12:00		67.7		60.0		PUMP	54															
AUG 31	12:00		61.8		60.0		PUMP	60															
SEP 02	12:00		55.5		60.0		PUMP	64															
SEP 04	12:00		53.4		60.0		PUMP	58															
SEP 05	12:00		52.9		60.0		PUMP	65															
SEP 07	12:00		54.6		60.0		PUMP	62															
SEP 09	12:00		54.2		60.0		PUMP	68															
SEP 11	12:00		53.6		60.0		PUMP	57															
SEP 12	12:00		54.8		60.0		PUMP	53															
SEP 14	12:00		53.4		60.0		PUMP	49															
SEP 16	12:00		51.2		60.0		PUMP	55															
SEP 18	12:00		49.4		60.0		PUMP	62															
SEP 24	11:30		46.5		60.0		PUMP	43															
SEP 24	13:22	13.0	46.7		32.0		DH59	30	181														

NOTE : SINGLE VERTICAL LOCATED AT 60.0 METRES FOR 1986

DISCHARGE SYMBOL(S) E - ESTIMATED
VERTICAL SYMBOL(S) M - A SEDIMENT MEASUREMENT VERTICAL

MANITOBA

ODEI RIVER NEAR THOMPSON - STATION NO. 05TG003

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY MAY-SEP MEAN LOAD (TONNES)	SUMMARY MAY-SEP HISTORICAL MEAN LOAD (TONNES)	SUMMARY MAY-SEP STANDARD ERROR OF MEAN %
1979	----P-PPC---	DUAL	114 MAY 28		23 SEP 14		1 100 MAY 28		7 550	---	---	---
1980	----CCCCC---	DUAL	189 AUG 26		32 JUL 18		1 870 AUG 26		44 800	253	293	---
1981	----CCCCC---	DUAL	86 MAY 20		10 AUG 27	*	2 570 MAY 18		30 200	197	245	19.6
1982	----CCCCC---	DUAL	101 MAY 10		35 JUL 18		4 230 MAY 03		78 400	512	334	27.9
1983	----CCCCP---	DUAL	108 JUL 19		34 SEP 02		1 740 MAY 30		58 800	---	---	---
1984	----CCCCC---	MANUAL	68 JUN 10		21 AUG 29		544 MAY 08		---	175	284	26.2
1985	----CCCCCP--	DUAL	208 JUN 25		31 AUG 27		3 860 MAY 01		93 100	647	365	25.3
1986	----CCCCC---	DUAL	259 JUL 22	*	27 JUL 27		6 050 MAY 15	*	136 000	* 887	452	25.5

DUAL - MANUAL AND AUTOMATIC SAMPLING MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MANITOBA

PEMBINA RIVER NEAR WINDYGATES - STATION NO. 05OB007

SUSPENDED SEDIMENT FOR 1986

LOCATION LAT 49 01 53 N LONG 98 16 40 W
DRAINAGE AREA 7 500 km²
TYPE OF FLOW REGULATED
TYPE OF GAUGE RECORDING

INTERNATIONAL GAUGING STATION

TOTAL SUSPENDED SEDIMENT LOAD 48 300 TONNES FOR THE PERIOD JAN 01 TO DEC 31

REMARKS

DAY	JAN DAILY DISCHARGE (m³/s)	JAN MEAN CONCENTRATION (mg/L)	JAN DAILY LOAD (t)	FEB DAILY DISCHARGE (m³/s)	FEB MEAN CONCENTRATION (mg/L)	FEB DAILY LOAD (t)	MAR DAILY DISCHARGE (m³/s)	MAR MEAN CONCENTRATION (mg/L)	MAR DAILY LOAD (t)	DAY
1	0.111 B	20	0.19	0.093 B	23	0.18	0.270 B	19	0.44	1
2	0.116 B	21	0.21	0.113 B	23	0.22	0.139 B	19	0.23	2
3	0.106 B	21	0.20	0.128 B	23 S	0.25	0.100 B	19	0.16	3
4	0.088 B	22	0.19	0.116 B	23	0.23	0.075 B	19	0.12	4
5	0.083 B	22	0.18	0.101 B	22	0.19	0.100 B	18	0.16	5
6	0.087 B	22	0.18	0.084 B	22	0.12	0.150 B	18	0.23	6
7	0.105 B	22	0.20	0.047 B	22	0.09	0.207 B	18	0.32	7
8	0.114 B	23	0.23	0.030 B	22	0.06	0.256 B	18	0.40	8
9	0.136 B	23	0.27	0.020 B	22	0.04	0.314 B	18	0.49	9
10	0.172 B	24	0.36	0.019 B	21	0.03	0.423 B	18	0.65	10
11	0.242 B	24	0.50	0.041 B	21	0.07	0.417 B	18	0.65	11
12	0.275 B	25	0.59	0.084 B	21	0.15	0.458 B	18	0.71	12
13	0.189 B	26	0.45	0.102 B	21	0.19	0.400 B	18	0.62	13
14	0.165 B	27 S	0.38	0.117 B	21	0.21	0.262 B	18	0.41	14
15	0.172 B	27	0.40	0.101 B	21	0.18	0.243 B	18	0.38	15
16	0.209 B	27	0.49	0.070 B	21	0.13	0.624 B	18	0.97	16
17	0.263 B	26	0.59	0.041 B	20	0.07	0.935 B	17	1.37	17
18	0.277 B	26	0.62	0.033 B	20	0.06	0.863 B	17	1.27	18
19	0.284 B	26	0.64	0.030 B	20	0.05	0.805 B	17	0.88	19
20	0.295 B	26	0.66	0.036 B	20	0.06	0.733 B	18 S	1.14	20
21	0.305 B	25	0.66	0.050 B	20	0.09	1.34 B	52	6.02	21
22	0.356 B	25	0.77	0.065 B	20	0.11	12.5 B	676 S	946	22
23	0.285 B	25	0.62	0.072 B	19	0.12	22.1	517 S	887	23
24	0.244 B	25	0.53	0.060 B	19	0.10	17.8	441 S	676	24
25	0.182 B	25	0.39	0.069 B	19	0.11	21.2 B	821 S	1 500	25
26	0.092 B	24	0.19	0.188 B	19	0.28	21.3	555 S	1 020	26
27	0.094 B	24	0.19	0.259 B	19	0.43	25.9 B	817 S	1 830	27
28	0.118 B	24	0.24	0.277 B	19	0.45	30.8	1 030 S	2 720	28
29	0.101 B	24	0.21				32.4	983 S	2 700	29
30	0.078 B	24	0.16				28.6	806 S	1 880	30
31	0.072 B	23	0.14				24.7	811 S	1 300	31
TOTAL	5.448		11.61	2.405		4.27	246.014		15 688.64	TOTAL

DAY	APR DAILY DISCHARGE (m³/s)	APR MEAN CONCENTRATION (mg/L)	APR DAILY LOAD (t)	MAY DAILY DISCHARGE (m³/s)	MAY MEAN CONCENTRATION (mg/L)	MAY DAILY LOAD (t)	JUN DAILY DISCHARGE (m³/s)	JUN MEAN CONCENTRATION (mg/L)	JUN DAILY LOAD (t)	DAY
1	22.0	521 S	990	18.7	214 S	346	11.0 E	122	116	1
2	20.0	426 S	736	18.7	187 S	302	11.2 E	122	118	2
3	19.9	390 S	671	18.6	176	283	20.0 E	140	242	3
4	19.5	335 S	564	18.0	170 S	264	18.0 E	174	271	4
5	18.7	313 S	506	17.4	164 S	247	15.0 E	155	201	5
6	18.0	294 S	457	18.3	202 S	319	13.0 E	142	159	6
7	17.4	292 S	439	32.7	385	755	12.0 E	139	144	7
8	16.9	317 S	463	25.3	521 S	1 140	11.0 E	136	129	8
9	16.4	378 S	536	23.6	343 S	686	10.2 E	135	119	9
10	16.2	312 S	437	21.3	273 S	502	9.40 E	132 S	107	10
11	15.7	263 S	357	21.3	393 S	723	8.80 E	126	95.8	11
12	15.4	250 S	333	25.9	1 020 S	2 280	8.40 E	118	84.2	12
13	15.0	232	301	21.1	367 S	669	7.80 E	102	68.7	13
14	15.0	215	278	19.1	257 S	424	7.20 E	84	52.3	14
15	13.9	198 S	238	18.2	238	374	6.70 E	71 S	41.1	15
16	12.5	184 S	195	17.7	223	341	6.40 E	67	37.0	16
17	12.6	237 S	258	17.1	218	322	6.00 E	62	32.1	17
18	15.3	447 S	630	16.9	203 S	296	5.70 E	57	28.1	18
19	24.8	674 S	1 680	16.8	198	287	5.35 A	54 S	25.0	19
20	28.4	843 S	1 580	18.2	181	283	8.60 E	119	88.4	20
21	27.0	486 S	1 180	15.5	167	224	8.40 E	127	83.2	21
22	24.6	376 S	787	15.0	156	202	7.60 E	108 S	70.9	22
23	21.4	312 S	577	14.3	142 S	175	5.80 E	95	54.2	23
24	19.4	260 S	436	13.8	136	162	5.00 E	82	42.5	24
25	18.7	240 S	388	13.7	133	152	5.40 E	73	34.1	25
26	18.6	221 S	355	12.9 A	126 S	140	5.00 E	63	27.2	26
27	18.0	209 S	325	12.6 E	124	134	4.60 E	51	20.3	27
28	18.0	203 S	316	12.1 E	123	129	4.40 E	40	15.2	28
29	17.7	350 S	535	11.9 E	123	126	4.20 E	30 S	10.9	29
30	18.2	289 S	454	11.8 E	123	123	4.00 E	27	9.33	30
31				11.2 E	123 S	119				31
TOTAL	656.2		17 187	536.8		12 509	257.95		2 535.63	TOTAL

A - MANUAL GAUGE B - ICE CONDITIONS E - ESTIMATED S - SAMPLE(S) COLLECTED THIS DAY

PEMBINA RIVER NEAR WINDYGATES - STATION NO. 05OB007

SUSPENDED SEDIMENT FOR 1986

DAY	JUL DAILY DISCHARGE (m^3/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	AUG DAILY DISCHARGE (m^3/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	SEP DAILY DISCHARGE (m^3/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	DAY
1	3.75	26	8.42	2.80 E	16	3.87	1.85	11	1.75	1
2	3.85	26	8.20	2.78 E	17	4.08	1.75	12	1.81	2
3	3.50	25	7.56	2.76 E	16 S	4.28	1.71	12	1.77	3
4	3.56	26	8.00	2.73 E	19	4.48	1.70	12	1.76	4
5	3.65	24	7.57	2.70 E	19	4.43	1.69	11	1.61	5
6	3.57	23 S	7.08	2.67 E	19	4.36	1.69	10 S	1.46	6
7	3.80	26	8.09	2.64 E	19	4.33	1.68	10	1.45	7
8	3.44	27	8.02	2.62 E	19	4.30	1.71	10	1.48	8
9	3.25	25	7.02	2.60 E	19	4.27	1.78	10	1.52	9
10	3.27	24 S	6.78	2.59 E	18 S	4.03	1.68	9	1.31	10
11	3.27	25	7.08	2.57 E	18	4.00	1.61	9	1.25	11
12	3.33	25	7.19	2.54 E	18	3.95	1.53	9	1.19	12
13	3.34	28	8.08	2.51 E	18	3.90	1.48	8	1.02	13
14	3.43	28	8.30	2.49 E	17	3.86	1.42	9 S	1.10	14
15	3.33	27	7.77	2.47 E	17	3.83	1.37	9	1.07	15
16	3.56 A	28 S	8.61	2.45 E	17	3.80	1.39	10	1.20	16
17	3.52 E	27	8.21	2.42 E	17 S	3.55	1.36	10 S	1.18	17
18	3.48 E	28	7.52	2.39 E	18	3.72	1.35	10	1.17	18
19	3.40 E	24 S	7.05	2.36 A	18 S	3.67	1.31	10	1.13	19
20	3.30 E	23	6.58	2.08	18	3.23	1.27	10	1.10	20
21	3.20 E	22	6.08	2.13	18	3.31	1.25	9 S	0.97	21
22	3.10 E	21	5.82	2.19	18	3.41	1.19	9	0.93	22
23	3.00 E	20	5.18	2.23	18	3.47	1.13	10	0.98	23
24	2.90 E	19	4.76	2.21	18 S	3.44	1.08	10	0.94	24
25	2.95 E	18	4.84	2.18	17	3.22	1.15	9	0.89	25
26	3.10 E	18	4.82	2.16	16	2.99	1.08	9	0.84	26
27	3.00 E	17	4.41	2.15	15	2.79	1.05	10	0.91	27
28	2.97 E	16	4.11	2.16	14	2.61	0.984	9 S	0.77	28
29	2.94 E	16	4.08	2.18	13	2.45	0.995	10	0.88	29
30	2.90 E	16 S	4.01	2.10	12	2.18	0.972	9	0.76	30
31	2.85 E	16	3.94	1.96	12	2.03				31
TOTAL	102.11		204.93	74.83		111.27	42.201		36.19	TOTAL

DAY	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	NOV DAILY DISCHARGE (m^3/s)	NOV MEAN CONCENTRATION (mg/L)	NOV DAILY LOAD (t)	DEC DAILY DISCHARGE (m^3/s)	DEC MEAN CONCENTRATION (mg/L)	DEC DAILY LOAD (t)	DAY
1	0.967	10	0.84	0.435 E	9	0.34	0.180 B	8	0.11	1
2	0.996	10	0.86	0.425 E	9	0.33	0.156 B	8	0.11	2
3	0.982	8	0.68	0.410 E	8	0.28	0.156 B	8	0.11	3
4	0.961	8	0.66	0.402 E	8 S	0.28	0.154 B	8	0.11	4
5	0.811	8 S	0.63	0.400 E	8	0.28	0.152 B	8	0.11	5
6	0.902	6	0.47	0.420 B	9	0.33	0.150 B	7	0.09	6
7	0.852	7	0.52	0.440 B	9	0.34	0.148 B	7	0.08	7
8	0.824	8	0.57	0.400 B	9	0.31	0.146 B	7	0.09	8
9	0.822	8	0.57	0.350 B	9	0.27	0.144 B	7	0.09	9
10	0.809	9	0.63	0.310 B	9	0.24	0.142 B	7	0.08	10
11	0.775	9	0.60	0.290 B	9	0.23	0.140 B	7	0.08	11
12	0.759	9 S	0.59	0.275 B	9	0.21	0.139 B	7	0.08	12
13	0.780	9	0.59	0.265 B	10	0.23	0.138 B	7	0.08	13
14	0.738	10	0.63	0.255 B	9	0.20	0.137 B	7	0.08	14
15	0.725	11	0.69	0.248 B	9	0.19	0.136 B	7	0.08	15
16	0.708	11	0.67	0.240 B	9	0.19	0.135 B	6	0.07	16
17	0.688	11	0.65	0.230 B	9	0.18	0.134 B	6	0.07	17
18	0.681	11	0.65	0.224 B	9	0.18	0.133 B	6	0.07	18
19	0.658	11 S	0.63	0.220 B	9	0.17	0.132 B	6	0.07	19
20	0.614	12	0.64	0.216 B	9	0.17	0.131 B	6	0.07	20
21	0.615	10	0.53	0.210 B	9	0.16	0.130 B	6	0.07	21
22	0.598	10	0.52	0.205 B	9	0.16	0.129 B	6	0.07	22
23	0.567	9	0.44	0.200 B	8	0.14	0.128 B	6	0.07	23
24	0.558	8	0.39	0.187 B	8	0.14	0.127 B	6	0.07	24
25	0.523	8	0.36	0.183 B	8	0.13	0.126 B	6	0.07	25
26	0.515	8	0.36	0.185 B	8	0.13	0.125 B	5	0.05	26
27	0.465	7	0.28	0.176 B	8 S	0.12	0.124 B	5	0.05	27
28	0.410	7	0.25	0.172 B	8	0.12	0.123 B	5	0.05	28
29	0.374	9 S	0.29	0.168 B	8	0.12	0.122 B	5	0.05	29
30	0.443 A	10 S	0.38	0.164 B	8	0.11	0.121 B	5	0.05	30
31	0.440 E	10	0.38				0.120 B	5	0.05	31
TOTAL	21.630		16.95	8.325		6.25	4.240		2.40	TOTAL

A - MANUAL GAUGE B - ICE CONDITIONS E - ESTIMATED S - SAMPLE(S) COLLECTED THIS DAY

PEMBINA RIVER NEAR WINDYGATES - STATION NO. 05OB007

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)		SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)		DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 14	12:00	0.5	0.158	B	MID	X	DIP	27																
FEB 13	11:00	0.5	0.103	B	MID	X	DIP	21																
MAR 20	11:00	0.5	0.390	B	MID	X	DIP	17																
MAR 22	14:15	1.0	12.5	W	40.0		DH59	1050		287	40	40	85	78	93	98	98	100			4	56	40
MAR 22	19:00	1.0	12.5	W	40.0		DH59	1630		240	32	43	83	77	95	98	98	100			2	55	43
MAR 23	09:45	0.0	21.4		40.0		DH59	273																
MAR 23	17:45	0.0	21.8		40.0		DH59	745																
MAR 24	08:30	0.0	18.0		40.0		DH59	161																
MAR 24	13:10	1.0	18.3		40.0		DH59	511																
MAR 24	17:30	0.5	17.4		40.0		DH59	655																
MAR 25	08:00	0.0	21.2	W	40.0		DH59	449																
MAR 25	15:05	0.5	4.36	B	40.0	M	DH59	852		237	22	32	47	61	80	90	95	99	100		10	58	32
MAR 25	15:10	0.5	3.77	B	37.0	M	DH59	908		234	18	32	43	60	78	88	93	99	100		12	56	32
MAR 25	15:15	0.5	5.28	B	34.0	M	DH59	874		234	21	33	47	58	80	89	92	99	100		11	56	33
MAR 25	15:20	0.5	5.38	B	30.0	M	DH59	810		236	22	31	48	62	82	92	96	98	100		8	61	31
MAR 25	15:25	0.5	2.78	B	24.0	M	DH59	853		238	20	34	47	69	87	94	98	100			8	60	34
MAR 25	17:00	0.0	21.2	W	40.0		DH59	1530																
MAR 26	08:30	0.0	19.0		40.0		DH59	254																
MAR 26	18:15	0.5	22.7		40.0		DH59	718																
MAR 27	08:35	0.0	25.9	W	40.0		DH59	488																
MAR 27	14:40	1.0	25.9	W	40.0		DH59	1120	C															
MAR 28	09:15	1.5	29.2		40.0		DH59	1230		301	18	23	38	47	64	74	82	95	100		28	51	23
MAR 28	19:00	3.0	32.1		40.0		DH59	884	C															
MAR 29	09:45	4.0	32.5		40.0		DH59	937	C															
MAR 29	18:45	6.0	31.6		40.0		DH59	1000	C															
MAR 30	09:05	5.0	29.2		40.0		DH59	827	C	295														
MAR 30	14:45	7.0	27.8		40.0		DH59	777	C															
MAR 31	09:10	6.0	24.8		40.0		DH59	616	C															
MAR 31	18:25	6.0	24.1		40.0		DH59	585	C															
APR 01	08:45	4.0	22.4		40.0		DH59	531	C															
APR 01	18:50	6.0	20.8		40.0		DH59	496	C															
APR 02	09:10	4.0	20.2		40.0		DH59	464	C															
APR 02	18:45	4.0	19.8		40.0		DH59	373	C															
APR 03	08:15	3.0	19.9		40.0		DH59	409																
APR 03	18:25	5.0	19.9		40.0		DH59	379																
APR 04	09:20	4.0	19.7		40.0		DH59	330																
APR 04	18:30	5.0	19.2		40.0		DH59	316																
APR 05	09:45	5.5	18.7		40.0		DH59	318																
APR 05	19:10	6.0	18.6		40.0		DH59	301																
APR 06	09:00	5.0	18.1		40.0		DH59	271																
APR 06	18:15	8.0	17.8		40.0		DH59	309																
APR 07	10:05	7.0	5.34		40.0	M	DH59	280		415														
APR 07	10:10	7.0	2.98		38.0	M	DH59	292		413														
APR 07	10:15	7.0	4.11		35.0	M	DH59	327		415														
APR 07	10:20	7.0	3.38		30.0	M	DH59	280		425														
APR 07	10:25	7.0	1.82		26.0	M	DH59	244		408														
APR 07	17:10	9.0	17.2		40.0		DH59	278																
APR 08	09:10	8.0	17.1		40.0		DH59	287																
APR 09	08:50	7.0	16.4		40.0		DH59	387	C															
APR 11	08:30	10.0	15.6		40.0		DH59	262																
APR 12	18:40	5.0	15.3		40.0		DH59	243																
APR 15	15:05	4.0	13.9		40.0		DH59	187		388														
APR 16	16:50	7.0	12.3		40.0		DH59	174																
APR 17	08:15	5.0	11.9		40.0		DH59	207																
APR 18	09:30	5.0	15.6		40.0		DH59	397																
APR 18	18:15	5.0	17.8		40.0		DH59	563																
APR 19	09:30	5.0	23.3		40.0		DH59	983	C															
APR 19	16:20	6.0	27.7		40.0		DH59	1100	C															
APR 20	09:15	4.5	28.5		40.0		DH59	729	C															
APR 20	18:30	4.0	27.7		40.0		DH59	881	C															
APR 21	18:05	6.0	27.1		40.0		DH59	506	C	418														
APR 22	08:45	5.5	25.2		40.0		DH59	442	C															
APR 22	18:55	9.0	23.6		40.0		DH59	405	C															
APR 23	08:45	9.0	21.7		40.0		DH59	373	C															
APR 24	09:20	9.0	19.5		40.0		DH59	307	C															
APR 25	08:50	9.0	18.8		40.0		DH59	284	C															
APR 25	19:20	8.0	18.8		40.0		DH59	287	C															
APR 26	19:30	6.0	18.3		40.0		DH59	284	C															
APR 27	16:10	8.0	17.9		40.0		DH59	235																
APR 28	18:00	8.0	17.9		40.0		DH59	223																
APR 29	16:20	10.0	17.8		40.0		DH59	479	C															
APR 30	12:30	10.0	1.71		43.0	M	DH59	229		425														
APR 30	12:35	10.0	3.92		40.0	M	DH59	312	C	429														
APR 30	12:40	10.0	3.94		37.0	M	DH59	266		430														
APR 30	12:45	10.0	5.51		34.0	M	DH59	268		425														
APR 30	12:50	10.0	3.16		27.0	M	DH59	222		427														
MAY 01	18:40	8.0	18.7		40.0		DH59	239																
MAY 02	17:45	11.0	18.7		40.0		DH59	209																
MAY 04	09:50	13.0	18.3		40.0		DH59	196																
MAY 05	19:30	12.0	17.2		40.0		DH59	189																
MAY 06	16:05	9.0	18.9		40.0		DH59	250																
MAY 08	16:30	9.0	25.3		40.0		DH59	563		430	28	50	63	78	84	89	93	99	100		11	39	50
MAY 09	09:20	8.0	23.6		40.0		DH59	389																
MAY 10	08:50	10.0	21.5		40.0		DH59	310																
MAY 11	11:30	13.0	19.9		40.0		DH59	276																
MAY 12	08:40	11.0	26.3		40.0		DH59	1380		432	16	16	74	75	90	94	98	100			6	78	16
MAY 12	19:20	15.0	24.1		40.0		DH59	728		480	18	46	61	74	83	89	93	99	100		11	43	46
MAY 13	08:30	13.0	21.3		40.0		DH59	397		483	24	42	60	73	84	90	96	100			10	48	42
MAY 14	19:15	14.0	18.9		40.0		DH59	246																
MAY 18	08:30	10.0	16.8		40.0		DH59	700		527														
MAY 23	20:40	18.0	14.0		40.0		DH59	141																
MAY 26	10:15	19.0	1.48		42.0	M	DH59	120		570														
MAY 26	10:20	19.0	2.56		40.0	M	DH59	122		588														
MAY 26	10:25	19.0	3.02		38.0	M	DH59	133		561														
MAY 26	10:30	19.0	3.87		35.0	M	DH59	132		574														
MAY 26	10:35	19.0	2.04		30.0	M	DH59	114		578														
MAY 31	19:20	25.0	11.2	Y	40.0		DH59	123																
JUN 10	08:18	17.0	9.40	Y	40.0		DH59	132		564														
JUN 15	09:50	16.0	6.70	Y	40.0		DH59	71																

NOTE : SINGLE VERTICAL LOCATED AT 40 METRES FOR 1986

DISCHARGE SYMBOL(S): B - ICE CONDITIONS W - DAILY MEAN; ICE CONDITIONS Y - DAILY MEAN; ESTIMATED
CONCENTRATION SYMBOL(S) C - COARSE MATERIAL PRESENT

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL M - A SEDIMENT MEASUREMENT VERTICAL

CONTINUED

PEMBINA RIVER NEAR WINDYGATES - STATION NO. 05OB007 (CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)		SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JUN 19	09:35	23.0	0.810		33.5	M	DH48	52	830														
JUN 19	09:40	23.0	1.25		36.5	M	DH48	53	841														
JUN 19	09:45	23.0	1.23		38.5	M	DH48	55	808														
JUN 19	09:50	23.0	1.33		40.0	M	DH48	53	834														
JUN 19	09:55	23.0	0.730		41.5	M	DH48	55	830														
JUN 22	11:00	22.0	7.60	Y	40.0		DH59	110															
JUN 28	16:35	21.0	4.20	Y	40.0		DH59	28	837														
JUL 06	09:05	18.0	3.55		40.0		DH59	23	837														
JUL 10	19:10	18.0	3.29		40.0		DH59	25															
JUL 16	13:45	23.0	3.56	Y	40.0		DH48	29	583														
JUL 19	18:55	23.0	3.40	Y	40.0		DH59	23															
JUL 30	19:30	23.5	2.90	Y	40.0		DH59	15	612														
AUG 03	18:00	25.0	2.76	Y	40.0		DH59	19															
AUG 10	18:30	21.0	2.59	Y	40.0		DH59	18	576														
AUG 17	15:20	23.0	2.42	Y	40.0		DH59	17	572														
AUG 19	12:30	25.0	2.36	Y	40.0		DIP	18															
AUG 24	16:30	22.0	2.20		40.0		DH59	18	572														
SEP 06	19:00	15.0	1.69		40.0		DH59	10	581														
SEP 14	13:30	11.0	1.42		40.0		DH59	9	585														
SEP 17	08:45	12.0	1.36		40.0		DH48	10															
SEP 21	10:15	12.0	1.24		40.0		DH59	10	584														
SEP 28	10:30	10.0	0.968		40.0		DH48	10	588														
OCT 05	09:15	7.0	0.810		40.0		DH48	8	587														
OCT 12	13:50	4.0	0.759		40.0		DH48	9	588														
OCT 19	10:30	8.0	0.645		40.0		DH48	12	590														
OCT 29	09:45	3.0	0.376		40.0		DH48	8	595														
OCT 30	12:30	2.0	0.443		40.0		DIP	10															
NOV 04	14:10	0.0	0.402	Y	40.0		DH48	13	633														
NOV 27	11:00	0.5	0.176	B	MID	X	DH48	8	728														

NOTE : SINGLE VERTICAL LOCATED AT 40 METRES FOR 1986

DISCHARGE SYMBOL(S): B - ICE CONDITIONS Y - DAILY MEAN, MANUAL GAUGE y - DAILY MEAN, ESTIMATED
VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY - JAN-DEC MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1962	---PCCCCCCCC	MANUAL	1 480	APR 20	5	JUN 29	5 590	APR 21	30 400	---	---	---
1963	CCCCCCCCCCCC	MANUAL	520	JUN 07	0	JAN 28 *	299	JUN 06	8 480	23.2	23.2	---
1964	CCCCCCCCCCCC	MANUAL	595	APR 21	12	JUL 12	378	APR 21	12 400	34.0	28.8	18.8
1965	CCCCCCCCCCCC	MANUAL	1 680	MAY 05	5	AUG 12	5 300	APR 14	57 600	158	71.7	80.3
1966	CCCCCCCCCCCC	MANUAL	1 730	APR 01	11	NOV 21	6 470	APR 01	86 400	237	113	45.5
1967	CCCCCCCCCCCC	MANUAL	5 800	APR 20 *	0	OCT 02	13 800	APR 20	85 800	235	137	34.1
1968	CCCCCCCCCCCC	MANUAL	1 070	MAR 28	20	JUL 10	1 650	MAR 28	23 200	63.5	125	32.1
1969	CCCCCCCCCCCC	MANUAL	1 230	APR 12	8	JAN 09	8 770	APR 19	144 000	395	184	31.3
1970	CCCCCCCCCCCC	MANUAL	2 830	APR 25	30	OCT 03	15 800	APR 26	178 000	488	204	29.5
1971	CCCCCCCCCCCC	MANUAL	1 430	APR 11	20	OCT 19	17 500	APR 11	180 000	437	230	25.7
1972	CCCCCCCCCCCC	MANUAL	1 570	APR 11	17	OCT 15	6 040	APR 11	103 000	282	235	22.6
1973	CCCCCCCCCCCC	MANUAL	388	JUL 25	24	SEP 18	73.4	AUG 09	2 590	7.11	215	24.3
1974	CCCCCCCCCCCC	MANUAL	3 870	APR 18	25	AUG 15	26 300	MAY 21 *	383 000 *	1 080	287	30.1
1975	CCCCCCCCCCCC	MANUAL	1 180	MAY 01	10	FEB 25	3 480	MAY 12	90 800	248	284	28.0
1976	CCCCCCCCCCCC	MANUAL	2 320	APR 05	20	AUG 03	12 400	APR 06	289 000	790	320	25.7
1977	CCCCCCCCCCCC	MANUAL	1 310	MAY 19	13	APR 17	274	MAY 22	1 480	4.00	298	26.5
1978	CCCCCCCCCCCC	MANUAL	2 110	APR 06	5	MAR 29	4 240	APR 09	41 500	114	287	26.1
1979	CCCCCCCCCCCC	MANUAL	2 080	APR 21	15	AUG 12	20 200	APR 22	352 000	965	327	24.8
1980	CCCCCCCCCCCC	MANUAL	1 290	MAY 29	13	JAN 18	385	MAY 29	3 330	9.11	309	25.4
1981	CCCCCCCCCCCC	MANUAL	2 180	MAY 23	5	NOV 15	1 530	MAY 23	4 370	12.0	294	25.8
1982	CCCCCCCCCCCC	MANUAL	4 660	JUN 07	8	SEP 15	12 600	JUN 07	53 100	146	286	25.3
1983	CCCCCCCCCCCC	MANUAL	1 610	APR 08	4	AUG 07	3 990	APR 08	46 400	127	279	24.8
1984	CCCCCCCCCCCC	MANUAL	901	JUN 16	3	NOV 07	739	JUN 16	1 780	4.81	286	25.2
1985	CCCCCCCCCCCC	MANUAL	1 730	MAR 22	7	JUL 24	2 920	MAR 23	44 700	123	280	24.8
1986	PPCCCCCCCCCC	MANUAL	1 630	MAR 23	8	OCT 06	2 720	MAR 28	52 400	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MANITOBA

RED RIVER AT EMERSON - STATION NO. 05OC001

SUSPENDED SEDIMENT FOR 1988

LOCATION: LAT 49 00 30 N LONG 97 12 40 W
DRAINAGE AREA 104 000 km²
TYPE OF FLOW REGULATED
TYPE OF GAUGE RECORDING

INTERNATIONAL GAUGING STATION

TOTAL SUSPENDED SEDIMENT LOAD 1 050 000 TONNES FOR THE PERIOD JAN 01 TO DEC 31

REMARKS

	JAN			FEB			MAR			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	59.1 B	12	61.3	53.4 B	11	50.8	48.1 B	10	41.6	1
2	58.7 B	12	60.9	52.9 B	11	50.3	47.9 B	10	41.4	2
3	58.6 B	12	61.0	52.8 B	11	50.6	47.7 B	11	45.3	3
4	58.7 B	12	60.9	52.5 B	10	45.4	47.7 B	10	41.2	4
5	58.6 B	12	60.8	52.3 B	11	49.7	48.0 B	11	45.6	5
6	58.5 B	12 S	60.7	52.3 B	11	49.7	48.7 B	11	46.3	6
7	58.0 B	13	65.1	52.5 B	11	49.8	49.4 B	10	42.7	7
8	57.4 B	12	59.6	52.7 B	11	50.1	50.0 B	11	47.5	8
9	57.1 B	12	58.2	52.8 B	11	50.2	50.4 B	11	47.9	9
10	57.0 B	12	58.1	52.7 B	10	45.5	51.1 B	12	53.0	10
11	57.2 B	12	58.3	52.6 B	10	45.4	51.8 B	11	49.2	11
12	57.0 B	11	54.2	52.5 B	10	45.4	52.3 B	11	49.7	12
13	57.0 B	12	58.1	52.5 B	10	45.4	52.9 B	11 S	50.3	13
14	56.7 B	12	58.8	52.2 B	10	45.1	53.5 B	14	65.2	14
15	56.2 B	12	58.3	51.9 B	10	44.8	55.1 B	14	66.6	15
16	55.9 B	12	58.0	51.7 B	10	44.7	56.5 B	14	68.3	16
17	55.6 B	11	53.0	51.3 B	10 S	44.3	58.7 B	16	81.1	17
18	56.1 B	11	53.3	51.0 B	10	44.1	62.1 B	18	96.6	18
19	56.2 B	11	53.4	50.7 B	9	39.4	66.4 B	19	109	19
20	56.2 B	10	48.8	50.5 B	10	43.6	71.0 B	20	123	20
21	55.3 B	10	48.6	50.0 B	9	38.9	76.0 B	31	208	21
22	56.7 B	11	53.9	49.8 B	10	43.0	86.7 B	46	337	22
23	58.1 B	11	55.2	49.7 B	10	42.9	140 B	55	677	23
24	58.1 B	11	55.2	49.4 B	11	46.9	200 B	69	1 180	24
25	57.6 B	11	54.7	49.0 B	10	42.3	259 B	92	2 060	25
26	57.2 B	11	54.4	48.7 B	10	42.1	345 B	121	3 610	26
27	56.5 B	11	54.0	48.5 B	10	41.9	420 B	155	5 660	27
28	56.3 B	10	48.6	48.4 B	9	37.6	518 B	198	8 850	28
29	55.7 B	11	52.9				650 B	274	15 400	29
30	54.9 B	10	47.4				762 B	377	24 800	30
31	54.1 B	11	51.4				818 B	367 S	25 900	31
TOTAL	1 788.0		1 740.8	1 437.1		1 269.4	5 346.4		88 914.5	TOTAL

	APR			MAY			JUN			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	853 B	318 S	23 400	745	121 S	7 790	272	183 S	4 300	1
2	876 B	328 S	24 700	795	120 S	8 240	263	185 S	4 200	2
3	915 B	260 S	20 600	818	139 S	9 820	255	219 S	4 830	3
4	951	221 S	18 200	810	118 S	8 280	246	196 S	4 170	4
5	980	201 S	16 700	813	105 S	7 380	238	245 S	5 040	5
6	987	171 S	14 300	814	87 S	6 820	232	350 S	7 020	6
7	969	145 S	12 500	815	88 S	6 200	227	324 S	6 350	7
8	963	149 S	12 400	822	71 S	5 040	219	272 S	5 150	8
9	949	114 S	9 350	828	61 S	4 380	213	242 S	4 450	9
10	927	98 S	7 850	829	63 S	4 510	213	231 S	4 250	10
11	872	97	7 310	826	72 S	5 140	214	237 S	4 380	11
12	798	95	6 550	789	79 S	5 380	208	289 S	4 830	12
13	740	93 S	5 950	738	80 S	5 100	200	371 S	6 410	13
14	700	90 S	5 440	703	67 S	4 070	198	413 S	7 070	14
15	870	88 S	5 080	675	106 S	6 180	189	303 S	4 950	15
16	850	87 S	4 890	651	71 S	3 980	182	248 S	3 900	16
17	840	79 S	4 370	631	70 S	3 820	178	240 S	3 890	17
18	830	79 S	4 300	614	95 S	5 040	175	228 S	3 450	18
19	825	78 S	4 210	598	106 S	5 480	174	238 S	3 580	19
20	816	143 S	7 840	583	111 S	5 590	178	254 S	3 880	20
21	617	327 S	17 400	569	106 S	5 210	186	258 S	4 150	21
22	620	219 S	11 700	552	107 S	5 100	202	270 S	4 710	22
23	629	233 S	12 700	530	105 S	4 810	213	389 S	7 180	23
24	638	241 S	13 300	502	103 S	4 470	211	619 S	11 300	24
25	643	253 S	14 100	484	101 S	4 050	209	549 S	9 910	25
26	649	201 S	11 300	421	106 S	3 880	204	439 S	7 880	26
27	653	184 S	10 400	381	107 S	3 520	204	370 S	6 520	27
28	658	164 S	9 440	348	112 S	3 370	195	351 S	5 910	28
29	688	144 S	8 680	323	127 S	3 540	185	320 S	5 110	29
30	711	127 S	7 800	302	140 S	3 850	175	328 S	4 970	30
31				288	164 S	4 050				31
TOTAL	22 787		332 450	19 576		183 880	8 280		183 510	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

MANITOBA

RED RIVER AT EMERSON - STATION NO. 05OC001

SUSPENDED SEDIMENT FOR 1986

DAY	JUL DAILY DISCHARGE (m^3/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	AUG DAILY DISCHARGE (m^3/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	SEP DAILY DISCHARGE (m^3/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	DAY
1	165	304 S	4 330	117	353	3 570	65.4	85 S	480	1
2	157	320 S	4 340	112	306 S	2 960	67.8	81	474	2
3	150	345 S	4 470	107	279	2 580	71.1	82 S	504	3
4	144	355 S	4 420	102	275 S	2 420	73.9	92	587	4
5	144	387 S	4 940	98.1	293	2 480	73.1	97 S	613	5
6	141	363 S	4 420	95.5	285 S	2 350	72.8	92	579	6
7	140	334 S	4 040	92.3	255	2 030	74.0	85 S	543	7
8	138	322 S	3 840	89.3	231 S	1 780	73.5	78	502	8
9	135	320 S	3 730	87.0	218	1 620	75.2	75 S	487	9
10	132	363 S	4 140	84.8	206	1 510	78.0	78	519	10
11	134	376 S	4 350	83.0	190 S	1 380	82.6	90 S	642	11
12	134	353 S	4 090	82.2	184	1 310	85.7	102	755	12
13	131	321 S	3 630	81.5	173 S	1 220	86.8	94 S	706	13
14	130	339 S	3 810	80.3	164 S	1 140	86.6	92	688	14
15	131	320 S	3 620	78.5	160	1 090	84.2	91 S	662	15
16	138	298 S	3 550	76.4	158 S	1 040	81.3	87	611	16
17	150	322 S	4 170	74.9	151	977	78.4	85 S	576	17
18	159	387 S	5 320	73.1	138 S	872	75.6	83	544	18
19	161	426 S	5 930	71.9	132 S	820	73.8	81 S	515	19
20	161	446 S	6 200	70.8	145 S	887	72.6	82	514	20
21	159	470 S	6 460	70.5	141	859	71.9	79 S	491	21
22	156	422 S	5 690	70.9	123 S	753	72.0	82 S	510	22
23	151	391 S	5 100	70.7	110	672	72.2	97 S	605	23
24	146	387 S	4 630	70.1	111 S	672	72.9	108	687	24
25	142	351 S	4 310	68.0	115	676	76.7	122 S	808	25
26	138	340 S	4 050	65.3	112 S	641	84.9	134	983	26
27	134	337 S	3 900	65.3	108	609	101	154	1 340	27
28	129	335 S	3 730	64.8	106 S	593	117	203 S	2 080	28
29	126	340 S	3 700	64.6	101	564	132	297 S	3 390	29
30	125	424	4 580	64.3	95 S	528	144	426	5 300	30
31	121	413 S	4 320	64.6	88	491				31
TOTAL	4 402		137 810	2 497.8		41 074	2 478.1		27 685	TOTAL

DAY	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	NOV DAILY DISCHARGE (m^3/s)	NOV MEAN CONCENTRATION (mg/L)	NOV DAILY LOAD (t)	DEC DAILY DISCHARGE (m^3/s)	DEC MEAN CONCENTRATION (mg/L)	DEC DAILY LOAD (t)	DAY
1	153	817 S	8 160	61.5	78 S	414	60.4 B	18	93.9	1
2	160	729	10 100	61.5	65	345	60.3 B	18	93.8	2
3	161	661 S	9 190	60.1	54 S	280	60.7 B	18	94.4	3
4	158	605	8 280	58.7	48	243	61.3 B	18	95.3	4
5	150	564 S	7 310	58.2	41 S	206	62.1 B	18	96.6	5
6	140	526	6 360	58.2	39	196	62.6 B	18	97.7	6
7	128	455 S	5 070	58.5	38	192	63.0 B	18	98.0	7
8	120	387	4 010	59.3 B	37	170	62.9 B	18	97.6	8
9	113	315 S	3 080	59.6 B	36	167	62.4 B	18	97.0	9
10	108	258	2 410	59.1 B	35	161	60.8 B	18	94.6	10
11	104	223 S	3 000	54.0 B	34	159	58.4 B	18	80.7	11
12	102	187	1 650	56.7 B	33	162	56.3 B	18	77.8	12
13	99.5	151 S	1 300	58.4 B	32	161	54.7 B	18	75.6	13
14	97.7	129	1 090	58.2 B	31	156	53.5 B	18	74.0	14
15	95.7	119 S	984	56.9 B	30	147	53.1 B	18	73.4	15
16	94.0	111	901	55.6 B	29	139	52.9 B	18	73.1	16
17	92.3	98	782	56.6 B	28	137	53.0 B	18	73.3	17
18	91.2	87 S	686	57.2 B	28	138	53.3 B	18	73.7	18
19	90.9	82	644	57.9 B	28	140	53.7 B	18	74.2	19
20	89.6	79 S	612	59.8 B	27	140	53.3 B	18	73.7	20
21	87.4	78	577	61.1 B	26	137	52.6 B	14	63.6	21
22	85.7	81 S	600	61.8 B	25	133	52.0 B	14	62.8	22
23	83.8	78	550	62.4 B	23	124	51.4 B	14	62.2	23
24	80.4	68 S	472	62.9 B	22	120	51.0 B	14	61.7	24
25	78.3	65 S	429	63.3 B	21	115	51.2 B	14	61.9	25
26	71.9	77	478	63.3 B	20	109	51.8 B	14	62.7	26
27	68.2	95 S	560	62.6 B	20 S	108	52.6 B	14	63.6	27
28	65.1	87	489	62.2 B	20	107	53.5 B	14	64.7	28
29	64.1	75	415	61.6 B	20	106	54.4 B	14	65.8	29
30	63.4	66 S	362	60.9 B	20	105	55.3 B	14	66.9	30
31	61.8	72	384				56.1 B	14	67.9	31
TOTAL	3 157.1		79 935	1 770.1		5 017	1 740.8		2 412.5	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

RED RIVER AT EMERSON - STATION NO. 05OC001

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1985

DATE	TIME	WATER TEMP. (°C)	INSTANT DISCHARGE (m^3/s)			SINGLE VERTICAL SAMPLING [m]			TYPE OF SAMPLER	INSTANT CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 06	12 00	0.5	58.5	B		35.0	N		DH48	12	397														
FEB 17	12 00	0.5	51.3	B		35.0	N		DH48	10	380														
MAR 13	13 25	0.5	8.13	B		9.0	Z		DH48	12	380														
MAR 13	13 30	0.5	13.4	B		24.0	Z		DH48	10	388														
MAR 13	13 35	0.5	12.9	B		36.0	Z		DH48	10	371														
MAR 13	13 40	0.5	13.5	B		48.0	Z		DH48	11	378														
MAR 13	13 45	0.5	8.35	B		60.0	Z		DH48	10	376														
MAR 31	13 30	1.0	181		B	88.0		M	D74	355	292	46	55	81	89	96	97	99	100				3	42	55
MAR 31	13 35	1.0	210		B	118		M	D74	371	294	42	58	80	91	96	98	98	100				2	40	58
MAR 31	13 40	1.0	143		B	132		M	D74	384	286	38	55	77	88	97	98	99	100				2	43	55
MAR 31	13 45	1.0	153		B	140		M	D74	352	283	43	52	78	90	95	98	98	100				2	46	52
MAR 31	13 50	1.0	152		B	156		M	D74	384	286	47	60	80	92	96	98	99	100				2	38	60
APR 01	11 00	3.0	853		W	132			DH59	310															
APR 02	12 15	3.0	180		B	90	O	M	D74	324	281	55	73	87	95	96	98	99	100				2	25	73
APR 02	12 20	3.0	216		B	118		M	D74	344	255	53	74	88	92	97	97	99	100				3	23	74
APR 02	12 25	3.0	157		B	132		M	D74	322	258	51	74	86	93	97	97	98	100				3	23	74
APR 02	12 30	3.0	156		B	140		M	D74	333	260	52	72	86	93	97	98	100					2	26	72
APR 02	12 35	3.0	167		B	156		M	D74	337	265	56	71	88	94	96	99	99	100				1	28	71
APR 02	12 40	3.0	876		W	132			D74	366	273	41	73	96	98	99	100						0	27	73
APR 02	19 00	3.0	876		W	132			DH59	299															
APR 03	08 00	3.0	915		W	132			DH59	280	282														
APR 04	08 00	4.0	951		H	132			DH59	245															
APR 05	08 00	4.0	960		H	132			DH59	239															
APR 06	08 00	5.0	967		H	132			DH59	204															
APR 06	19 00	6.0	967		H	132			DH59	194															
APR 07	07 00	6.0	969		H	132			DH59	176															
APR 08	08 00	6.0	963		H	132			DH59	148															
APR 08	11 30	6.0	142			88	O	M	D74	146	314														
APR 08	11 35	6.0	242			108		M	D74	144	313														
APR 08	11 40	6.0	238			132		M	D74	179	313														
APR 08	11 45	6.0	161			140		M	D74	144	305														
APR 08	11 50	6.0	192			156		M	D74	151	306														
APR 09	12 00	8.0	949		H	132			DH59	122															
APR 10	18 00	8.0	927		H	132			DH59	109															
APR 13	18 00	8.0	740		H	132			DH59	103															
APR 14	18 00	5.0	700		H	132			DH59	95	380														
APR 15	09 00	5.0	670		H	132			DH59	96															
APR 15	19 00	5.0	670		H	132			DH59	96															
APR 16	09 00	5.0	650		H	132			DH59	93															
APR 16	18 00	5.0	650		H	132			DH59	90															
APR 17	10 00	5.0	640		H	132			DH59	85															
APR 17	17 30	6.0	640		H	132			DH59	85															
APR 18	09 00	6.0	630		H	132			DH59	82															
APR 18	18 00	6.0	630		H	132			DH59	83															
APR 19	07 30	6.0	625		H	132			DH59	78															
APR 19	19 00	6.0	625		H	132			DH59	85	459														
APR 20	10 00	6.0	618		H	132			DH59	109															
APR 20	19 00	6.0	618		H	132			DH59	181															
APR 21	08 00	6.0	617		H	132			DH59	370															
APR 21	11 00	6.0	138			100		M	D74	368	436	46	65	79	91	95	98	100					2	33	65
APR 21	11 05	6.0	116			116		M	D74	365	440	40	61	79	92	95	98	99	100				2	37	61
APR 21	11 10	6.0	129			132		M	D74	368	437	35	53	80	89	97	97	99	100				3	44	53
APR 21	11 15	6.0	128			144		M	D74	347	432	30	59	79	91	97	98	100					2	38	59
APR 21	11 20	6.0	84.0			160		M	D74	279	439	39	63	81	92	97	99	99	100				1	36	63
APR 21	18 00	8.0	617		H	132			DH59	290															
APR 22	08 00	6.0	620		H	132			DH59	215															
APR 22	19 00	7.0	620		H	132			DH59	211															
APR 23	08 00	8.0	629		H	132			DH59	238															
APR 23	19 00	8.0	629		H	132			DH59	230	407														
APR 24	08 00	8.0	638		H	132			DH59	229															
APR 24	19 00	9.0	638		H	132			DH59	264															
APR 25	08 00	9.0	643		H	132			DH59	271															
APR 26	08 00	8.0	649		H	132			DH59	208															
APR 26	19 00	8.0	648		H	132			DH59	185															
APR 27	07 30	8.0	653		H	132			DH59	190															
APR 28	08 00	8.0	656		H	132			DH59	172	435														
APR 28	18 00	8.0	656		H	132			DH59	161															
APR 29	08 00	8.0	688		H	132			DH59	152															
APR 29	19 00	9.0	688		H	132			DH59	145															
APR 30	08 00	9.0	711		H	132			DH59	132															
APR 30	19 30	9.0	711		H	132			DH59	128															
MAY 01	08 00	9.0	745		H	132			DH59	130															
MAY 01	18 00	8.0	745		H	132			DH59	125															
MAY 02	08 00	7.0	795		H	132			DH59	124															
MAY 02	20 00	9.0	795		H	132			DH59	124															
MAY 03	09 00	10.0	818		H	132			DH59	150															
MAY 03	20 30	10.0	818		H	132			DH59	137															
MAY 04	09 30	10.0	810		H	132			DH59	128	447														
MAY 04	20 30	10.0	810		H	132			DH59	117															
MAY 05	08 00	11.0	813		H	132			DH59	116															
MAY 05	18 00	12.0	813		H	132			DH59	107															
MAY 06	08 00	11.0	814		H	132			DH59	103															
MAY 06	10 40	11.0	171			92	O	M	D74	98	422														
MAY 06	10 45	11.0	182			120		M	D74	102	432														
MAY 06	10 50	11.0	139			132		M	D74	108	430														
MAY 06	10 55	11.0	159			144		M	D74	85	435														
MAY 06	11 00	11.0	116			160		M	D74	100	428														
MAY 06	21 00	11.0	814		H	132			DH59	101															
MAY 07	08 00	10.0	815		H	132			DH59	93															
MAY 07	20 30	11.0	815		H	132			DH59	92															
MAY 08	07 30	11.0	822		H	132			DH59	75															
MAY 08	20 30	11.0	822		H	132			DH59	88															
MAY 09	07 30	11.0	826		H	132			DH59	85															
MAY 09	20 30	12.0	826		H	132			DH59	67	490														
MAY 10	08 30	12.0	829		H	132			DH59	84															
MAY 10	20 00	12.0	829		H	132			DH59	73															
MAY 11	08 30	13.0	826		H	132			DH59	76	509														
MAY 11	19 30	13.0	826		H	132			DH59	75															
MAY 12	08 00	13.0	788		H	132			DH59	82															
MAY 12	21 30	13.0	789		H	132			DH59	82															
MAY 13	08 00	14.0	738		H	132			DH59	82															
MAY 13	19 00	15.0	738		H	132			DH59	78															

NOTE SINGLE VERTICAL LOCATED AT 132 METRES FOR 1986

DISCHARGE SYMBOL(S) B - ICE CONDITIONS H - DAILY MEAN W - DAILY MEAN; ICE CONDITIONS

VERTICAL SYMBOL(S) N - NOT AT REGULAR SINGLE SAMPLE VERTICAL M - A SEDIMENT MEASUREMENT VERTICAL

Z - A SEDIMENT MEASUREMENT VERTICAL NOT AT THE REGULAR MEASUREMENT CROSS-SECTION

CONTINUED

RED RIVER AT EMERSON - STATION NO 05OC001 (CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP (°C)	INSTANT. DISCHARGE (m³/s)		SINGLE VERTICAL SAMPLING (m)		TYPE OF SAMPLER	INSTANT CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 14	08:00	15.0	703	H	132		DH59	67															
MAY 14	20:00	15.0	703	H	132		DH59	76															
MAY 15	07:30	15.0	675	H	132		DH59	131															
MAY 15	18:30	15.0	675	H	132		DH59	88															
MAY 16	08:00	15.0	651	H	132		DH59	72	499														
MAY 16	20:30	15.0	651	H	132		DH59	70															
MAY 17	08:00	15.0	631	H	132		DH59	67															
MAY 17	19:00	15.0	631	H	132		DH59	71															
MAY 18	09:00	15.0	614	H	132		DH59	98															
MAY 18	21:00	15.0	614	H	132		DH59	101															
MAY 19	08:00	15.0	599	H	132		DH59	112															
MAY 19	19:00	15.0	599	H	132		DH59	105															
MAY 20	08:00	15.0	583	H	132		DH59	114															
MAY 20	09:45	15.0	130		100	M	DT4	113	454														
MAY 20	09:55	15.0	106		116	M	DT4	118	467														
MAY 20	10:05	15.0	125		132	M	DT4	117	460														
MAY 20	10:15	15.0	128		144	M	DT4	114	464														
MAY 20	10:25	15.0	78.4		180	M	DT4	114	467														
MAY 21	08:00	15.0	589	H	132		DH59	104															
MAY 22	08:00	15.0	552	H	132		DH59	110															
MAY 23	08:00	16.0	530	H	132		DH59	103															
MAY 24	08:00	16.0	502	H	132		DH59	104															
MAY 25	08:00	16.0	484	H	132		DH59	100															
MAY 26	08:00	16.0	421	H	132		DH59	106															
MAY 27	08:00	17.0	381	H	132		DH59	108	521														
MAY 28	08:00	18.0	348	H	132		DH59	113															
MAY 29	08:00	18.0	323	H	132		DH59	124															
MAY 30	08:00	18.0	302	H	132		DH59	136															
MAY 31	05:30	20.0	286	H	132		DH59	157															
JUN 01	10:00	20.0	272	H	132		DH59	167															
JUN 02	07:00	20.0	263	H	132		DH59	182															
JUN 03	08:00	20.0	255	H	132		DH59	223	461														
JUN 04	08:00	20.0	246	H	132		DH59	191															
JUN 05	08:00	20.0	238	H	132		DH59	213															
JUN 07	08:00	20.0	227	H	132		DH59	333															
JUN 08	08:00	20.0	219	H	132		DH59	275															
JUN 09	08:00	20.0	213	H	132		DH59	244															
JUN 10	08:00	21.0	213	H	132		DH59	228															
JUN 11	08:00	21.0	214	H	132		DH59	232	455														
JUN 12	09:00	20.0	208	H	132		DH59	264															
JUN 13	08:00	20.0	200	H	132		DH59	298															
JUN 14	09:00	20.0	198	H	132		DH59	430															
JUN 15	08:30	19.0	189	H	132		DH59	308															
JUN 16	09:00	19.0	182	H	132		DH59	247															
JUN 17	09:40	19.0	38.2		100	M	DH59	242	460														
JUN 17	09:45	19.0	33.7		116	M	DH59	244	450														
JUN 17	09:50	19.0	44.9		132	M	DH59	239	449														
JUN 17	09:55	19.0	38.9		144	M	DH59	238	485														
JUN 17	10:00	19.0	22.5		156	M	DH59	237	463														
JUN 17	20:00	20.0	178	H	132		DH59	239															
JUN 18	09:00	20.0	175	H	132		DH59	227															
JUN 19	10:00	21.0	174	H	132		DH59	236															
JUN 20	08:00	21.0	176	H	132		DH59	254															
JUN 21	10:00	22.0	186	H	132		DH59	256															
JUN 22	09:00	22.0	202	H	132		DH59	263															
JUN 23	10:00	21.0	213	H	132		DH59	338															
JUN 24	15:00	21.0	211	H	132		DH59	631	408	26	54	82	95	98	99	100				1	45	54
JUN 25	10:00	21.0	209	H	132		DH59	560	426	27	61	80	93	98	98	99	100			1	38	61
JUN 26	10:00	23.0	208	H	132		DH59	446	378	37	58	77	89	96	97	99	100			3	41	56
JUN 27	12:00	23.0	204	H	132		DH59	368															
JUN 28	12:00	23.0	195	H	132		DH59	357															
JUN 29	09:00	23.0	185	H	132		DH59	315															
JUN 30	09:30	22.0	176	H	132		DH59	334															
JUL 01	07:30	22.0	165	H	132		DH59	304															
JUL 02	08:00	22.0	157	H	132		DH59	315															
JUL 03	08:30	22.0	150	H	132		DH59	338															
JUL 04	08:00	23.0	144	H	132		DH59	347	451														
JUL 05	08:30	23.0	144	H	132		DH59	401															
JUL 06	09:00	23.0	141	H	132		DH59	365															
JUL 07	08:00	23.0	140	H	132		DH59	337															
JUL 08	08:00	23.0	138	H	132		DH59	322															
JUL 09	08:00	23.0	135	H	132		DH59	319															
JUL 10	08:30	23.0	132	H	132		DH59	342	460														
JUL 11	10:00	23.0	134	H	132		DH59	377															
JUL 12	09:00	23.0	134	H	132		DH59	380															
JUL 13	10:00	22.0	131	H	132		DH59	319															
JUL 14	09:00	22.0	130	H	132		DH59	337															
JUL 15	08:30	22.0	131	H	132		DH59	309															
JUL 16	10:10	23.0	15.5		156	M	DH59	288	470	31	52	72	87	97	97	98	99	100		3	45	52
JUL 16	10:15	23.0	32.1		144	M	DH59	326	481	27	35	50	82	82	84	87	98	100		18	49	35
JUL 16	10:20	23.0	33.7		132	M	DH59	272	475	32	52	74	87	96	97	100				3	45	52
JUL 16	10:25	23.0	24.2		120	M	DH59	289	478	43	51	75	87	97	98	100				3	47	51
JUL 16	10:30	23.0	31.5		104	M	DH59	302	486	42	46	64	77	87	93	98	100			7	47	46
JUL 17	15:00	24.0	150	H	132		DH59	300	454	45	54	76	89	98	98	100				3	44	54
JUL 18	21:00	24.0	159	H	133		DH59	384	478	31	51	70	86	96	98	99	100			3	47	51
JUL 19	21:00	23.0	161	H	132		DH59	416															
JUL 20	18:00	23.0	161	H	132		DH59	451															
JUL 21	12:00	23.0	159	H	132		DH59	478															
JUL 22	08:00	24.0	156	H	132		DH59	427															
JUL 23	08:00	24.0	151	H	132		DH59	386															
JUL 24	09:00	24.0	146	H	132		DH59	369															
JUL 25	14:00	25.0	142	H	132		DH59	351															
JUL 27	20:30	26.0	134	H	132		DH59	336	473														
JUL 28	18:00	26.0	129	H	132		DH59	338															
JUL 29	20:30	25.0	126	H	132		DH59	343															
JUL 31	10:00		121	H	132		DH59	420															
AUG 02	10:00	24.0	112	H	132		DH59	307															
AUG 04	10:00	24.0	102	H	132		DH59	274	486														
AUG 06	08:00	24.0	85.5	H	132		DH59	292															
AUG 11	08:00	22.0	83.0	H	132		DH59	190	480														
AUG 13	08:00	22.0	81.6	H	132		DH59	175															
AUG 14	12:00	22.0	80.3	H	132		DH59	161															

NOTE - SINGLE VERTICAL LOCATED AT 132 METRES FOR 1986

DISCHARGE SYMBOL(S) H - DAILY MEAN
VERTICAL SYMBOL(S) M - A SEDIMENT MEASUREMENT VERTICAL

CONTINUED

RED RIVER AT EMERSON - STATION NO. 05OJC001 (CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP (°C)	INSTANT DISCHARGE (m³/s)		SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT CONCENT (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
AUG 16	18 00	22.0	76.4	H	132		DH59	160															
AUG 18	18 00	22.0	73.1	H	132		DH59	133															
AUG 19	08 50	22.0	13.8		104	M	DH59	129	425														
AUG 19	08 55	22.0	12.1		120	M	DH59	136	442														
AUG 19	09 00	22.0	21.6		132	M	DH59	137	435														
AUG 19	09 05	22.0	17.4		144	M	DH59	106	408														
AUG 19	09 10	22.0	8.10		156	M	DH59	133	451														
AUG 20	09 00	22.0	70.8	H	132		DH59	143															
AUG 22	12 00	22.0	70.9	H	132		DH59	123															
AUG 24	10 00	22.0	70.1	H	132		DH59	111															
AUG 26	07 00	21.0	66.2	H	132		DH59	112	407														
AUG 28	07 30	18.0	64.6	H	132		DH59	107															
AUG 30	08 00	18.0	64.3	H	132		DH59	95															
SEP 01	08 00	18.0	65.4	H	132		DH59	85															
SEP 03	08 00	17.0	71.1	H	132		DH59	80	393														
SEP 05	08 00	16.0	73.1	H	132		DH59	98															
SEP 07	08 00	14.0	74.0	H	132		DH59	86															
SEP 09	08 00	15.0	75.2	H	132		DH59	74															
SEP 11	08 00	16.0	82.6	H	132		DH59	88	421														
SEP 13	08 00	15.0	86.9	H	132		DH59	94															
SEP 15	11 00	15.0	84.2	H	132		DH59	90															
SEP 17	18 00	14.0	78.4	H	132		DH59	84															
SEP 19	11 00	14.0	73.6	H	132		DH59	81	413														
SEP 21	10 30	14.0	71.9	H	132		DH59	78															
SEP 22	10 30	14.0	72.0	H	132		DH59	79															
SEP 23	08 30	14.0	11.9		100	M	DH59	87	446														
SEP 23	08 35	14.0	11.5		116	M	DH59	87	461														
SEP 23	08 40	14.0	23.5		132	M	DH59	98	460														
SEP 23	08 45	14.0	17.2		144	M	DH59	93	460														
SEP 23	08 50	14.0	7.60		156	M	DH59	89	464														
SEP 25	11 00	15.0	76.7	H	132		DH59	115															
SEP 28	08 00	15.0	117	H	132		DH59	184															
SEP 29	08 00	15.0	132	H	132		DH59	274															
OCT 01	08 00	14.0	153	H	132		DH59	577															
OCT 03	17 00	14.0	161	H	132		DH59	844	484	37	53	79	91	97	99	99	100			1	45	53
OCT 05	18 30	14.0	150	H	132		DH59	560	380	40	59	78	90	95	98	99	100			2	38	59
OCT 07	18 30	13.0	128	H	132		DH59	426															
OCT 09	12 00	11.0	113	H	132		DH59	308															
OCT 11	18 00	10.0	104	H	132		DH59	214															
OCT 13	18 00	10.0	99.5	H	132		DH59	141															
OCT 15	18 00	8.0	95.7	H	132		DH59	115	508														
OCT 18	18 00	8.0	91.3	H	132		DH59	81															
OCT 20	18 00	8.0	89.6	H	132		DH59	79	506														
OCT 22	12 00	8.0	85.7	H	132		DH59	78															
OCT 24	09 30	8.0	14.0		100	M	DH59	68	467														
OCT 24	09 35	8.0	12.8		116	M	DH59	70	514														
OCT 24	09 40	8.0	25.0		132	M	DH59	69	516														
OCT 24	09 45	8.0	19.1		144	M	DH59	89	519														
OCT 24	09 50	8.0	8.30		156	M	DH59	67	505														
OCT 25	18 00	8.0	76.3	H	132		DH59	68	510														
OCT 27	18 00	7.0	68.2	H	132		DH59	98	502														
OCT 30	18 00	6.0	63.4	H	132		DH59	64	582														
NOV 01	08 00	5.0	61.5	H	132		DH59	80	556														
NOV 03	12 00	4.0	60.1	H	132		DH59	53	600														
NOV 05	12 00		58.2	H	132		DH59	42	587														
NOV 27	15 00	0.5	62.6	B	42	0 X	DH48	17	543														

NOTE SINGLE VERTICAL LOCATED AT 132 METRES FOR 1988

DISCHARGE SYMBOL(S) B - ICE CONDITIONS D - DAILY MEAN
VERTICAL SYMBOL(S) M - A SEDIMENT MEASUREMENT VERTICAL X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY JAN-DEC MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1956	---PC-------	MANUAL	665	APR 21	285	MAY 10	39 300	APR 23	866 000	---	---	---
1961	---P-------	MANUAL	310	APR 19	130	APR 25	1 570	APR 18	7 810	---	---	---
1978	CCCCCCCCCCCC	MANUAL	733	JUL 17	19	FEB 08	55 100	APR 11 *	1 130 000	3 100	3 100	---
1979	CCCCCCCCCCCC	MANUAL	523	JUL 07	12	JAN 23	43 800	APR 26	1 500 000 *	4 120	3 610	14 1
1980	CCCCCCCCCCCC	MANUAL	859	APR 09	10	FEB 12	33 400	APR 09	385 000	1 010	2 740	33 4
1981	CCCCCCCCCCCC	MANUAL	1 580	MAY 30	9	JAN 16	22 000	JUL 03	372 000	1 020	2 310	33 7
1982	CCCCCCCCCCCC	MANUAL	961	JUN 09	8	JAN 05	33 200	APR 17	848 000	2 320	2 310	26 1
1983	CCCCCCCCCCCC	MANUAL	866	JUN 18	6	FEB 07 *	23 700	APR 09	762 000	2 090	2 280	21 6
1984	CCCCCCCCCCCC	MANUAL	851	JUN 12	10	JAN 05	32 700	JUN 13	732 000	2 000	2 240	18 7
1985	CCCCCCCCCCCC	MANUAL	1 930	MAY 17 *	9	DEC 05	54 000	MAY 17	1 210 000	3 310	2 370	16 3
1988	CCCCCCCCCCCC	MANUAL	844	OCT 03	10	FEB 17	25 800	MAR 31	1 050 000	2 870	2 430	14 2

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

RED RIVER NEAR LOCKPORT - STATION NO. 05OJ010

SUSPENDED SEDIMENT FOR 1986

LOCATION LAT 50 06 28 N LONG 96 55 54 W
DRAINAGE AREA 287 000 km²
TYPE OF FLOW REGULATED
TYPE OF GAUGE RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 1 700 000 TONNES FOR THE PERIOD JAN 01 TO DEC 31

REMARKS

DAY	JAN DAILY DISCHARGE (m³/s)	JAN MEAN CONCENTRATION (mg/L)	JAN DAILY LOAD (t)	FEB DAILY DISCHARGE (m³/s)	FEB MEAN CONCENTRATION (mg/L)	FEB DAILY LOAD (t)	MAR DAILY DISCHARGE (m³/s)	MAR MEAN CONCENTRATION (mg/L)	MAR DAILY LOAD (t)	DAY
1	88.0 B	14	104	86.2 B	11	80.0	70.5 B	10	60.9	1
2	86.3 B	14	104	83.8 B	11	79.6	69.5 B	10	60.0	2
3	86.6 B	14	105	83.4 B	11	79.3	69.0 B	10	59.6	3
4	87.0 B	14	105	83.0 B	11	78.9	68.5 B	10	59.2	4
5	87.5 B	14	106	82.6 B	11	78.5	67.9 B	10	58.7	5
6	88.0 B	14	106	82.2 B	11	78.1	67.1 B	10 S	58.0	6
7	88.4 B	14	107	81.8 B	11	77.7	66.5 B	10	57.5	7
8	88.7 B	14 S	107	81.0 B	11	77.0	66.0 B	10	57.0	8
9	88.5 B	14	107	80.5 B	11	76.5	65.4 B	10	56.5	9
10	88.3 B	14	107	80.0 B	11	76.0	65.0 B	10	56.2	10
11	88.1 B	14	107	79.5 B	11	75.6	66.0 B	10	57.0	11
12	88.0 B	13	98.8	79.0 B	11	75.1	67.0 B	10	57.9	12
13	87.7 B	13	98.5	78.5 B	11	74.6	69.0 B	9	53.7	13
14	87.4 B	13	98.2	78.0 B	11	74.1	71.0 B	9	55.2	14
15	87.1 B	13	97.8	77.5 B	11	73.7	73.0 B	9	58.8	15
16	86.8 B	13	97.5	77.0 B	11	73.2	75.0 B	9	58.3	16
17	86.6 B	13	97.3	76.5 B	11	72.7	76.8 B	9	59.7	17
18	86.4 B	13	97.0	76.0 B	11	72.2	77.6 B	9	60.3	18
19	86.2 B	12	89.4	75.0 B	11	71.3	78.7 B	9	62.0	19
20	86.0 B	12	89.2	75.0 B	10	64.8	85.6 B	15	111	20
21	85.8 B	12	89.0	74.5 B	10	64.4	83.7 B	30	243	21
22	85.6 B	12	88.8	74.0 B	10	63.9	101 B	43	375	22
23	85.4 B	12	88.5	73.5 B	10	63.5	117 B	55	556	23
24	85.2 B	12	88.3	73.0 B	10	63.1	142 B	70	1 100	24
25	85.0 B	12	88.1	72.5 B	10	62.6	334 B	84	2 420	25
26	85.8 B	12	89.0	72.0 B	10	62.2	491 B	99	4 200	26
27	85.7 B	11	81.4	71.5 B	10	61.8	605 B	120	6 270	27
28	85.6 B	11	81.4	71.0 B	10	61.3	823 B	139	9 880	28
29	84.5 B	11	80.3				1 150 B	163	16 200	29
30	84.4 B	11 S	80.2				1 540 B	205	27 300	30
31	84.3 B	11	80.1				1 670 B	295	42 800	31
TOTAL	2 682 B		2 983 B	2 176 S		2 011 7	8 522 B		112 359 S	TOTAL

DAY	APR DAILY DISCHARGE (m³/s)	APR MEAN CONCENTRATION (mg/L)	APR DAILY LOAD (t)	MAY DAILY DISCHARGE (m³/s)	MAY MEAN CONCENTRATION (mg/L)	MAY DAILY LOAD (t)	JUN DAILY DISCHARGE (m³/s)	JUN MEAN CONCENTRATION (mg/L)	JUN DAILY LOAD (t)	DAY
1	1 760 B	485	73 800	1 150	190 S	18 900	505	165 S	7 200	1
2	1 730	510 S	76 200	1 220	215 S	23 100	482	180 S	7 500	2
3	1 700	501 S	73 600	1 200	200 S	20 700	464	151 S	6 050	3
4	1 640	499 S	70 700	1 140	177 S	18 000	438	110 S	4 180	4
5	1 610	578 S	80 400	1 190	178 S	18 300	428	108 S	3 990	5
6	1 500	452 S	58 600	1 190	189 S	19 400	415	99 S	3 550	6
7	1 420	372 S	45 600	1 220	194 S	20 400	400	105 S	3 630	7
8	1 390	357 S	42 900	1 250	263 S	28 400	390	100 S	3 370	8
9	1 340	354 S	42 100	1 240	224 S	24 000	380	110 S	3 610	9
10	1 300	326 S	36 600	1 200	184 S	19 100	372	83 S	2 990	10
11	1 280	287 S	31 700	1 170	150 S	15 200	368	150 S	4 770	11
12	1 260	288 S	31 400	1 140	144 S	14 200	358	125 S	3 870	12
13	1 230	254	27 000	1 130	167 S	16 300	345	94 S	2 800	13
14	1 220	247 S	26 000	1 110	169 S	16 100	331	93 S	2 660	14
15	1 200	217 S	22 500	1 080	180 S	16 500	310	92 S	2 460	15
16	1 120	191 S	18 500	1 010	142 S	12 400	292	81 S	2 040	16
17	1 050	174 S	15 800	1 020	131 S	11 500	287	88 S	2 030	17
18	1 000	150 S	13 100	987	153 S	13 000	259	65 S	1 450	18
19	870	137 S	11 500	932	142 S	11 400	255	83 S	1 310	19
20	959	144 S	11 900	895	131 S	10 100	254	77 S	1 690	20
21	934	140 S	11 500	884	148 S	11 300	255	54 S	1 190	21
22	892	136 S	10 500	858	184 S	12 300	260	52 S	1 170	22
23	900	187 S	13 000	862	175 S	13 000	272	50 S	1 180	23
24	900	257 S	20 000	858	189 S	12 500	278	55 S	1 320	24
25	893	247 S	19 100	808	163 S	11 400	272	86 S	1 950	25
26	918	233 S	18 500	784	157 S	10 400	272	49 S	1 150	26
27	908	240 S	18 800	708	137 S	8 380	270	47 S	1 100	27
28	924	224 S	17 900	639	132 S	7 290	263	57 S	1 300	28
29	922	190 S	15 100	595	137 S	7 050	250	88 S	1 470	29
30	875	171 S	14 400	553	146 S	8 980	239	104 S	2 150	30
31				526	144 S	8 540				31
TOTAL	35 845		868 700	30 580		455 140	9 944		84 780	TOTAL

B - ICE CONDITIONS S - SAMPLE(S) COLLECTED THIS DAY

RED RIVER NEAR LOCKPORT - STATION NO. 05OJ010

SUSPENDED SEDIMENT FOR 1986

DAY	JUL DAILY DISCHARGE (m^3/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	AUG DAILY DISCHARGE (m^3/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	SEP DAILY DISCHARGE (m^3/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	DAY
1	229	100 S	1 980	154	33 S	439	74.5	40 S	257	1
2	215	81 S	1 130	149	40 S	515	75.5	52 S	339	2
3	204	85 S	1 150	143	42 S	519	76.8	55 S	385	3
4	197	45 S	766	138	34 S	405	78.5	54 S	366	4
5	187	42 S	678	133	33 S	379	80.8	47 S	327	5
6	177	48 S	734	127	35 S	384	82.8	44 S	315	6
7	173	45 S	673	124	36 S	386	83.5	51 S	368	7
8	174	48 S	722	120	37 S	384	84.1	47 S	342	8
9	174	40 S	601	116	30 S	301	84.8	49 S	359	9
10	181	32 S	500	111	31 S	297	85.5	51 S	377	10
11	225	36 S	700	106	28 S	256	87.4	46 S	347	11
12	307	48 S	1 270	102	30 S	284	91.1	47 S	370	12
13	308	61 S	1 820	99.6	29 S	250	94.5	52 S	425	13
14	298	78 S	1 990	96.8	25 S	213	97.3	43 S	361	14
15	275	89 S	1 840	95.5	25 S	206	98.3	43 S	385	15
16	250	52 S	1 120	93.1	29 S	233	98.4	45 S	383	16
17	231	51 S	1 020	90.8	27 S	212	96.5	40 S	334	17
18	218	65 S	1 230	89.4	27 S	209	92.8	35 S	281	18
19	218	52 S	984	87.9	36 S	273	90.1	29 S	226	19
20	218	57 S	1 070	86.7	40 S	300	98.7	34 S	284	20
21	214	55 S	1 020	85.0	30 S	220	106	39 S	357	21
22	210	58 S	1 050	83.8	33 S	238	105	34 S	308	22
23	204	53 S	934	83.4	29 S	209	99.7	38 S	327	23
24	195	43 S	724	82.8	33 S	236	95.9	35 S	290	24
25	187	42 S	678	82.2	28 S	199	98.1	48 S	407	25
26	181	40 S	626	81.0	29 S	203	93.5	47 S	380	26
27	177	42 S	642	79.5	30 S	206	94.0	35 S	284	27
28	171	39 S	578	78.2	39 S	264	106	32 S	293	28
29	167	44 S	635	76.4	39 S	257	123	35 S	372	29
30	164	43 S	609	74.8	37	239	139	37 S	444	30
31	158	36 S	491	74.2	36	231				31
TOTAL	5 487		29 585	3 145.9		8 927	2 810.0		10 253	TOTAL

DAY	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	NOV DAILY DISCHARGE (m^3/s)	NOV MEAN CONCENTRATION (mg/L)	NOV DAILY LOAD (t)	DEC DAILY DISCHARGE (m^3/s)	DEC MEAN CONCENTRATION (mg/L)	DEC DAILY LOAD (t)	DAY
1	151	40 S	522	94.0	25 S	203	83.8 B	20	145	1
2	161	40 S	556	90.0	18 S	148	82.7 B	20	143	2
3	172	41 S	609	87.0	23 S	173	82.1 B	20	142	3
4	176	43 S	654	84.0	28	210	81.1 B	20	140	4
5	177	42 S	642	81.0	35 S	245	81.3 B	20	140	5
6	175	48 S	726	82.2	32 S	227	82.1 B	20	142	6
7	168	51 S	740	96.7	28	234	82.9 B	20	143	7
8	162	48 S	672	85.1	26	191	83.7 B	20	145	8
9	157	51 S	692	82.0	26	184	84.0 B	20	145	9
10	146	51 S	643	82.9	25	179	83.8 B	20	145	10
11	137	58 S	687	85.0 B	26	191	83.3 B	18	130	11
12	132	59 S	673	87.0 B	26	195	81.2 B	18	126	12
13	126	56 S	619	89.0 B	26	200	78.6 B	18	122	13
14	127	55 S	604	91.0 B	24	185	76.2 B	18	119	14
15	126	52 S	565	93.0 B	24	193	74.2 B	18	115	15
16	124	56 S	600	91.0 B	26	204	72.8 B	18	113	16
17	122	50 S	527	85.0 B	25	184	71.9 B	18	112	17
18	120	41 S	425	80.0 B	25	173	71.2 B	18	111	18
19	117	38 S	384	75.0 B	24	156	70.9 B	18	110	19
20	115	39 S	388	72.8 B	24 S	151	70.5 B	18	110	20
21	113	41 S	400	73.0 B	24	151	70.4 B	18	97.3	21
22	113	38 S	371	76.0 B	24	158	70.3 B	18	97.2	22
23	111	40 S	384	78.0 B	24	162	69.7 B	18	96.4	23
24	109	38 S	358	79.0 B	24	164	68.9 B	18	95.2	24
25	110	35 S	333	80.0 B	24	166	68.2 B	18	94.3	25
26	108	33 S	308	81.0 B	22	154	67.4 B	18	93.2	26
27	106	30 S	275	82.0 B	22	156	66.8 B	18	92.3	27
28	104	29 S	261	82.5 B	22	157	67.1 B	18	92.8	28
29	102	27 S	238	83.0 B	22	158	67.6 B	18	93.5	29
30	100	23 S	199	84.0 B	22	160	68.0 B	18	94.0	30
31	97.0	26 S	218				68.3 B	18	94.4	31
TOTAL	4 066.0		15 274	2 512.2		5 416	2 331.1		3 836.6	TOTAL

B - ICE CONDITIONS S - SAMPLE(S) COLLECTED THIS DAY

RED RIVER NEAR LOCKPORT - STATION NO. 05OJ010

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)		SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 08	13:30	0.5	88.7	B	95.0		DH48	14	492														
JAN 30	11:20	0.5	84.4	B	95.0		DH48	11	499														
MAR 06	13:00	0.5	10.5	B	50.0	M	DH48	8	519														
MAR 06	13:05	0.5	17.3	B	75.0	M	DH48	8	503														
MAR 06	13:10	0.5	18.1	B	85.0	M	DH48	9	515														
MAR 06	13:15	0.5	14.8	B	115	M	DH48	14	520														
MAR 06	13:20	0.5	8.40	B	150	M	DH48	7	562														
APR 02	12:45	3.0	1730	M	MID		DH59	530	258	32	47	70	88	89	95	98	100				5	48	47
APR 03	08:30	3.0	1700	M	MID		DH59	544	252	31	51	69	84	92	95	98	100				5	44	51
APR 03	10:30	3.0	1700	M	MID		DH59	531	248	37	50	75	87	92	96	99	100				4	46	50
APR 03	11:30	3.0	357		50	0 M	D48	567	253	28	49	66	84	92	96	98	100				4	47	49
APR 03	11:35	3.0	317		75	0 M	D48	543	255	34	46	72	83	91	95	97	100				5	49	46
APR 03	11:40	3.0	282		85	0 M	D48	533	252	32	45	68	80	91	94	98	99	100			5	49	45
APR 03	11:45	3.0	340		115	M	D48	600	252	33	54	71	83	91	93	96	98	100			7	39	54
APR 03	11:50	3.0	386		150	M	D48	453	248	38	50	80	88	95	96	98	100				4	36	60
APR 04	12:05	5.0	1840	M	MID		DH59	495	232	42	52	74	83	92	95	98	100				5	43	52
APR 05	11:25	4.0	1810	M	MID		DH59	518	255	27	42	62	75	88	95	98	100				5	53	42
APR 06	18:30	7.0	1500	M	MID		DH59	435	250	48	60	75	83	91	94	98	100				6	34	60
APR 07	17:34	7.0	1420	M	MID		DH59	386	252	38	65	77	87	93	94	98	100				6	29	65
APR 08	12:33	7.0	1380	M	MID		DH59	386															
APR 09	08:30	6.0	1340	M	MID		DH59	363	268														
APR 09	10:10	6.0	248		45	0 M	D48	386	279														
APR 09	10:15	6.0	282		75	0 M	D48	387	274														
APR 09	10:20	6.0	241		85	0 M	D48	371	278														
APR 09	10:25	6.0	294		115	M	D48	356	267														
APR 09	10:30	6.0	320		150	M	D48	322	267														
APR 09	12:44	8.0	1340	M	MID		DH59	320															
APR 10	16:34	9.0	1300	M	MID		DH59	307															
APR 11	18:35	9.0	1280	M	MID		DH59	281															
APR 12	13:28	6.0	1260	M	MID		DH59	292	319														
APR 14	12:34	5.0	1220	M	MID		DH59	238															
APR 15	12:31	5.0	1200	M	MID		DH59	212															
APR 16	16:35	7.0	1120	M	MID		DH59	185															
APR 17	12:37	7.0	1050	M	MID		DH59	171															
APR 18	12:32	8.0	1000	M	MID		DH59	147															
APR 19	12:59	8.0	970	M	MID		DH59	130	377														
APR 20	14:52	5.0	959	M	MID		DH59	138															
APR 21	16:59	6.0	934	M	MID		DH59	129															
APR 22	12:30	7.0	892	M	MID		DH59	130															
APR 23	08:40	8.0	172		50	0 M	D48	153	401														
APR 23	09:45	8.0	178		75	0 M	D48	155	401														
APR 23	08:50	8.0	183		95	0 M	D48	158	404														
APR 23	09:55	8.0	186		115	M	D48	154	420														
APR 23	10:00	8.0	202		150	M	D48	147	415														
APR 23	11:00	8.0	900	M	MID		DH59	146	423														
APR 23	16:34	9.0	900	M	MID		DH59	166															
APR 24	12:40	8.0	900	M	MID		DH59	251															
APR 25	19:03	7.0	893	M	MID		DH59	215															
APR 26	13:00	8.0	918	M	MID		DH59	223	411														
APR 27	15:01	8.0	908	M	MID		DH59	232															
APR 28	12:32	8.0	924	M	MID		DH59	223															
APR 29	12:41	9.0	922	M	MID		DH59	188															
APR 30	18:51	8.0	976	M	MID		DH59	177															
MAY 01	12:28	7.0	1150	M	MID		DH59	188															
MAY 02	17:25	8.0	1220	M	MID		DH59	230															
MAY 03	12:17	9.0	1200	M	MID		DH59	194	411														
MAY 04	12:53	11.0	1180	M	MID		DH59	178															
MAY 05	07:00	10.0	1190	M	MID		DH59	175															
MAY 06	16:35		1190	M	MID		DH59	193															
MAY 07	12:36		1220	M	MID		DH59	185															
MAY 08	07:55	10.0	1250	M	MID		DH59	267															
MAY 08	08:00	11.0	248		50	0 M	D48	296	405	48	73	82	90	93	96	98	100				4	23	73
MAY 08	09:05	11.0	293		75	0 M	D48	298	404	51	71	81	89	91	93	97	100				7	22	71
MAY 08	09:10	11.0	224		95	0 M	D48	286	403	39	68	80	86	91	93	96	99	100			7	25	68
MAY 08	08:15	11.0	277		115	M	D48	308	385	48	77	84	89	93	94	96	99	100			6	17	77
MAY 08	09:20	11.0	286		150	M	D48	295	392	52	75	86	91	95	96	98	100				4	21	75
MAY 08	10:00	11.0	1250	M	MID		DH59	294	353	50	77	83	89	94	97	99	100				3	20	77
MAY 08	13:13	11.0	1240	M	MID		DH59	220	384														
MAY 10	15:00	12.0	1200	M	MID		DH59	169															
MAY 11	15:21	13.0	1170	M	MID		DH59	148															
MAY 12	12:32	13.0	1140	M	MID		DH59	147															
MAY 13	07:50	13.0	1130	M	MID		DH59	144	451														
MAY 14	07:55	14.0	1110	M	MID		DH59	169															
MAY 15	12:37	15.0	1060	M	MID		DH59	182															
MAY 16	08:42	13.0	1010	M	MID		DH59	144															
MAY 17	09:00	13.0	1020	M	MID		DH59	126															
MAY 18	09:30	14.0	987	M	MID		DH59	155															
MAY 18	09:00	14.0	932	M	MID		DH59	142															
MAY 20	12:44	16.0	895	M	MID		DH59	130	445														
MAY 21	12:43	16.0	884	M	MID		DH59	149															
MAY 22	07:50	15.0	858	M	MID		DH59	182															
MAY 23	07:52	16.0	352	M	MID		DH59	176															
MAY 24	20:01	17.0	858	M	MID		DH59	153															
MAY 25	14:10	18.0	808	M	MID		DH59	159															
MAY 26	07:45	18.0	764	M	MID		DH59	162															
MAY 27	12:40	20.0	708	M	MID		DH59	136	449														
MAY 28	16:40	21.0	639	M	MID		DH59	134															
MAY 29	12:41	21.0	598	M	MID		DH59	135															
MAY 30	07:46	20.0	553	M	MID		DH59	144															
MAY 31	11:58	21.0	526	M	MID		DH59	140															
JUN 01	10:50		505	M	MID		DH59	162															
JUN 02	12:40	20.0	482	M	MID		DH59	176															
JUN 03	07:42	20.0	464	M	MID		DH59	165	476														
JUN 04	07:47	19.0	438	M	MID		DH59	108															
JUN 05	07:55	19.0	428	M	MID		DH59	112															
JUN 06	11:45	19.0	415	M	MID		DH59	97															
JUN 07	09:15	19.0	400	M	MID		DH59	104															
JUN 08	15:35	20.0	380	M	MID		DH59	93															

NOTE - SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1986

DISCHARGE SYMBOL(S) B - ICE CONDITIONS M - DAILY MEAN
VERTICAL SYMBOL(S) M - A SEDIMENT MEASUREMENT VERTICAL

CONTINUED

RED RIVER NEAR LOCKPORT - STATION NO. 05OJ010 (CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)		SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JUN 09	08:10	19.0	87.9		150	M	DH59	83	457														
JUN 09	09:15	19.0	83.0		115	M	DH59	99	462														
JUN 09	09:20	19.0	74.0		85.0	M	DH59	113	385														
JUN 09	09:25	19.0	80.2		75.0	M	DH59	115	450														
JUN 09	09:30	19.0	80.9		50.0	M	DH59	140	443														
JUN 09	11:30	19.0	380	H	MID		DH59	102	439														
JUN 09	14:51	20.0	380	H	MID		DH59	105															
JUN 10	12:31	20.0	372	H	MID		DH59	77	476														
JUN 11	07:46	19.0	368	H	MID		DH59	144															
JUN 12	20:35	19.0	358	H	MID		DH59	103															
JUN 13	12:40	20.0	345	H	MID		DH59	89															
JUN 14	09:55	18.0	331	H	MID		DH59	90															
JUN 15	17:25	19.0	310	H	MID		DH59	86															
JUN 16	16:37	18.0	292	H	MID		DH59	78															
JUN 17	07:46	18.0	287	H	MID		DH59	88	459														
JUN 18	07:30	19.0	259	H	MID		DH59	89															
JUN 19	12:31	22.0	255	H	MID		DH59	84															
JUN 20	10:20	21.0	254	H	MID		DH59	79															
JUN 21	11:26	22.0	255	H	MID		DH59	53															
JUN 22	12:16	21.0	260	H	MID		DH59	54															
JUN 23	10:15	19.0	272	H	MID		DH59	52															
JUN 24	12:40	21.0	278	H	MID		DH59	57	452														
JUN 25	07:44	21.0	272	H	MID		DH59	70															
JUN 26	12:37	22.0	272	H	MID		DH59	49															
JUN 27	07:45	21.0	270	H	MID		DH59	45															
JUN 28	13:06	22.0	263	H	MID		DH59	59															
JUN 29	13:31	22.0	250	H	MID		DH59	66															
JUN 30	08:21	22.0	238	H	MID		DH59	98															
JUL 01	10:51	21.0	229	H	MID		DH59	105	394														
JUL 02	11:48	22.0	215	H	MID		DH59	59															
JUL 03	15:08	24.0	204	H	MID		DH59	66															
JUL 04	07:54	22.0	197	H	MID		DH59	45															
JUL 05	21:01	22.0	187	H	MID		DH59	45															
JUL 06	16:42	21.0	177	H	MID		DH59	49															
JUL 07	12:40	22.0	173	H	MID		DH59	44															
JUL 08	21:17	22.0	174	H	MID		DH59	51	467														
JUL 09	12:38	23.0	174	H	MID		DH59	36															
JUL 10	12:38	22.0	181	H	MID		DH59	33															
JUL 11	15:00	22.0	225	H	MID		DH59	35															
JUL 12	14:14	20.0	307	H	MID		DH59	46															
JUL 13	11:52	20.0	308	H	MID		DH59	52															
JUL 14	12:25	20.0	286	H	MID		DH59	67															
JUL 15	15:03	22.0	275	H	MID		DH59	51	449														
JUL 16	12:42	22.0	250	H	MID		DH59	38															
JUL 17	07:50	21.0	231	H	MID		DH59	36															
JUL 17	08:15	23.0	33.8		150	M	DH59	43	428														
JUL 17	08:20	23.0	45.0		115	M	DH59	45	428														
JUL 17	09:25	23.0	38.2		85.0	M	DH59	45	416														
JUL 17	08:30	23.0	38.6		80.0	M	DH59	49	425														
JUL 17	08:35	23.0	48.7		50.0	M	DH59	48	416														
JUL 17	10:00	23.0	231	H	MID		DH59	34	426														
JUL 18	19:27	22.0	219	H	MID		DH59	48															
JUL 19	19:55	22.0	218	H	MID		DH59	40															
JUL 20	21:31	23.0	218	H	MID		DH59	50															
JUL 21	12:40	23.0	214	H	MID		DH59	48															
JUL 22	06:52	22.0	210	H	MID		DH59	54	488														
JUL 23	18:30	26.0	204	H	MID		DH59	49															
JUL 24	16:10	27.0	195	H	MID		DH59	44															
JUL 25	16:30	26.0	187	H	MID		DH59	39															
JUL 26	16:30	23.0	181	H	MID		DH59	44															
JUL 27	13:30	24.0	177	H	MID		DH59	42	472														
JUL 28	14:15	27.0	171	H	MID		DH59	37															
JUL 29	12:37	24.0	167	H	MID		DH59	47															
JUL 30	20:08	23.0	164	H	MID		DH59	40															
JUL 31	12:20	23.0	158	H	MID		DH59	35															
AUG 01	21:32	23.0	154	H	MID		DH59	33															
AUG 02	09:45	22.0	149	H	MID		DH59	39															
AUG 03	16:01	24.0	143	H	MID		DH59	39	529														
AUG 04	20:23	24.0	138	H	MID		DH59	33															
AUG 05	14:42	25.0	133	H	MID		DH59	34															
AUG 06	12:37	25.0	127	H	MID		DH59	36															
AUG 07	17:12	24.0	124	H	MID		DH59	37															
AUG 08	14:57	25.0	120	H	MID		DH59	37															
AUG 09	21:01	22.0	116	H	MID		DH59	27															
AUG 10	09:49	21.0	111	H	MID		DH59	32	508														
AUG 11	16:47	23.0	106	H	MID		DH59	25															
AUG 12	07:14	20.0	102	H	MID		DH59	30															
AUG 13	12:28	23.0	99.6	H	MID		DH59	29															
AUG 14	12:33	23.0	98.8	H	MID		DH59	24															
AUG 15	20:49	22.0	95.5	H	MID		DH59	26															
AUG 16	09:58	21.0	93.1	H	MID		DH59	30															
AUG 17	20:05	22.0	90.8	H	MID		DH59	24	539														
AUG 18	08:10	22.0	13.8		180	M	DH59	30	538														
AUG 18	09:15	22.0	21.5		120	M	DH59	31	541														
AUG 18	08:20	22.0	23.5		85.0	M	DH59	32	541														
AUG 18	08:25	22.0	19.0		75.0	M	DH59	32	536														
AUG 18	08:30	22.0	16.7		55.0	M	DH59	33	545														
AUG 18	10:00	23.0	89.4	H	MID		DH59	32	532														
AUG 19	14:45	23.0	87.9	H	MID		DH59	38															
AUG 20	20:01	22.0	86.7	H	MID		DH59	33															
AUG 21	14:45	22.0	85.0	H	MID		DH59	29															
AUG 22	12:25	20.0	83.6	H	MID		DH59	35															
AUG 23	11:45	20.0	83.4	H	MID		DH59	28															
AUG 24	12:02	20.0	82.8	H	MID		DH59	34															
AUG 25	16:41	19.0	82.2	H	MID		DH59	25	508														
AUG 26	12:38	18.0	81.0	H	MID		DH59	30															
AUG 27	16:33	19.0	79.5	H	MID		DH59	27															
AUG 28	10:05	17.0	78.2	H	MID		DH59	42															
AUG 29	12:31	15.0	76.4	H	MID		DH59	38															
SEP 01	19:23	18.0	74.5	H	MID		DH59	40															
SEP 02	11:00	20.0	75.5	H	MID		DH59	51	503														
SEP 03	17:45	18.0	76.8	H	MID		DH59	50															

NOTE - SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1986

DISCHARGE SYMBOL(S): H - DAILY MEAN
VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

CONTINUED

RED RIVER NEAR LOCKPORT - STATION NO. 05OJ010 (CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)		SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002 .004 .008 .016 .031 .062 .125 .250 .500 1.00 2.00											PERCENT SAND	SILT	CLAY
SEP 04	12:42	17.0	78.5	H	MID		DH59	56																
SEP 05	18:01	16.0	80.6	H	MID		DH59	42																
SEP 06	10:30	15.0	82.8	H	MID		DH59	43																
SEP 07	13:43	16.0	83.5	H	MID		DH59	52																
SEP 08	12:27	15.0	84.1	H	MID		DH59	48																
SEP 09	12:32	15.0	84.8	H	MID		DH59	49	488															
SEP 10	12:35	15.0	85.5	H	MID		DH59	51																
SEP 11	16:05	17.0	87.4	H	MID		DH59	45																
SEP 12	12:26	14.0	91.1	H	MID		DH59	48																
SEP 13	10:46	14.0	94.5	H	MID		DH59	53																
SEP 14	18:28	14.0	97.3	H	MID		DH59	39																
SEP 15	12:19	13.0	98.3	H	MID		DH59	43																
SEP 16	12:39	14.0	98.4	H	MID		DH59	45	474															
SEP 17	12:40	13.0	96.6	H	MID		DH59	41																
SEP 18	16:04	14.0	92.8	H	MID		DH59	34																
SEP 19	18:03	14.0	80.1	H	MID		DH59	27																
SEP 20	12:52	14.0	86.7	H	MID		DH59	35																
SEP 21	13:41	14.0	106	H	MID		DH59	39																
SEP 22	09:30	13.0	19.5		150	M	DH59	30	463															
SEP 22	09:35	13.0	30.5		115	M	DH59	30	470															
SEP 22	09:40	13.0	23.3		95.0	M	DH59	32	456															
SEP 22	09:45	13.0	21.8		80.0	M	DH59	32	452															
SEP 22	09:50	13.0	31.4		85.0	M	DH59	32	448															
SEP 22	10:30	13.0	105	H	MID		DH59	26	458															
SEP 22	16:33	14.0	105	H	MID		DH59	34																
SEP 23	18:08	15.0	89.7	H	MID		DH59	37	440															
SEP 24	16:04	15.0	95.9	H	MID		DH59	35																
SEP 25	17:56	15.0	88.1	H	MID		DH59	50																
SEP 26	13:25	15.0	83.5	H	MID		DH59	47																
SEP 27	16:57	15.0	84.0	H	MID		DH59	34																
SEP 28	16:32	15.0	108	H	MID		DH59	30																
SEP 29	14:46	14.0	123	H	MID		DH59	36																
SEP 30	12:25	14.0	139	H	MID		DH59	38	445															
OCT 01	08:45	13.0	151	H	MID		DH59	40																
OCT 02	09:48	13.0	161	H	MID		DH59	40																
OCT 03	11:13	12.0	172	H	MID		DH59	40																
OCT 04	11:59	12.0	176	H	MID		DH59	43																
OCT 05	12:44	10.0	177	H	MID		DH59	42																
OCT 06	12:38	12.0	175	H	MID		DH59	48																
OCT 07	09:47	11.0	168	H	MID		DH59	52	411															
OCT 08	12:40	10.0	162	H	MID		DH59	46																
OCT 09	12:25	9.0	157	H	MID		DH59	52																
OCT 10	12:38	9.0	146	H	MID		DH59	49																
OCT 11	11:37	8.0	137	H	MID		DH59	59																
OCT 12	13:52	8.0	132	H	MID		DH59	58																
OCT 13	11:30	8.0	128	H	MID		DH59	54																
OCT 14	12:41	7.0	127	H	MID		DH59	54	389															
OCT 15	12:37	7.0	126	H	MID		DH59	50																
OCT 16	16:48	8.0	124	H	MID		DH59	47																
OCT 17	16:20	9.0	122	H	MID		DH59	45																
OCT 18	17:46	9.0	120	H	MID		DH59	43																
OCT 19	13:50	10.0	117	H	MID		DH59	36																
OCT 20	16:48	9.0	115	H	MID		DH59	41																
OCT 21	12:42	9.0	113	H	MID		DH59	39	486															
OCT 22	12:40	8.0	113	H	MID		DH59	38																
OCT 23	16:27	9.0	111	H	MID		DH59	39																
OCT 24	16:04	8.0	109	H	MID		DH59	35																
OCT 25	12:28	8.0	110	H	MID		DH59	34																
OCT 26	17:45	9.0	108	H	MID		DH59	35	519															
OCT 27	15:04	8.0	106	H	MID		DH59	35																
OCT 28	16:42	7.0	104	H	MID		DH59	35																
OCT 29	13:30	7.0	102	H	180	M	DH59	26	527															
OCT 29	13:35	7.0	102	H	120	M	DH59	25	519															
OCT 29	13:40	7.0	102	H	85.0	M	DH59	24	517															
OCT 29	13:45	7.0	102	H	75.0	M	DH59	24	519															
OCT 29	13:50	7.0	102	H	60.0	M	DH59	25	514															
OCT 29	14:30	7.0	102	H	MID		DH59	31	519															
OCT 29	16:14	6.0	102	H	MID		DH59	32																
OCT 30	12:40	6.0	100	H	MID		DH59	26																
OCT 31	12:35	6.0	87.0	H	MID		DH59	33																
NOV 01	15:42	4.0	84.0	H	MID		DH59	29	519															
NOV 02	13:55	3.0	80.0	H	MID		DH59	21																
NOV 03	12:35	2.0	87.0	H	MID		DH59	28																
NOV 05	18:20	3.0	81.0	H	MID		DH59	38																
NOV 08	08:50	4.0	82.2	H	MID		DH59	45	559															
NOV 20	12:30	0.5	72.8	B	85.0		DH48	24	633															

NOTE - SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1986

DISCHARGE SYMBOL(S). B - ICE CONDITIONS H - DAILY MEAN
VERTICAL SYMBOL(S) M - A SEDIMENT MEASUREMENT VERTICAL

MANITOBA

RED RIVER NEAR LOCKPORT - STATION NO. 05OJ010

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)				SAMPLED CONCENTRATION MINIMUM (mg/L)				SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)				SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)		SUMMARY : JAN-DEC MEAN LOAD (TONNES)	SUMMARY : JAN-DEC HISTORICAL MEAN LOAD (TONNES)	SUMMARY : JAN-DEC STANDARD ERROR OF MEAN %
1962	---PCCCCCCCC	MANUAL	1	230	APR	25	10	OCT	04		183	000	APR	25	2	080	---	---	---
1963	CCCCCCCCCCCC	MANUAL	1	580	JUN	08	4	FEB	19		58	200	APR	14	1	300	000	3	580	3	680	---
1964	CCCCCCCCCCCC	MANUAL	2	080	APR	18	5	OCT	04		178	000	APR	18	1	970	000	5	380	4	470	20.4
1965	CCCCCCCCCCCC	MANUAL	2	450	APR	14 *	10	MAR	02		289	000	APR	18	3	490	000	9	550	6	180	28.8
1966	CCCCCCCCCCCC	MANUAL	1	340	JUL	05	8	DEC	23		137	000	APR	10	2	870	000	8	140	8	860	20.2
1967	CCCCCCCCCCCC	MANUAL	1	010	APR	23	1	AUG	14 *		139	000	APR	23	2	420	000	6	630	6	650	15.7
1968	CCCCCCCCCCCC	MANUAL	1	300	JUN	16	4	JAN	25		42	300	JUN	16		883	000	2	410	5	850	18.6
1969	CCCCCCCCCCCC	MANUAL	1	700	APR	17	6	FEB	14		234	000	APR	17	3	420	000	9	380	6	440	16.4
1970	CCCCCCCCCCCC	MANUAL	1	140	APR	18	6	OCT	06		140	000	APR	21	3	120	000	8	550	6	700	14.2
1971	CCCCCCCCCCCC	MANUAL	2	230	APR	17	3	FEB	08		304	000	APR	13 *	1	910	000	5	230	6	540	13.1
1972	CCCCCCCCCCCC	DUAL		753	APR	17	7	OCT	16		88	600	APR	21	1	440	000	3	920	6	280	12.9
1973	CCCCCCCCCCCC	DUAL		593	MAR	29	2	JAN	19		27	200	MAR	29		256	000		701	5	770	15.4
1974	CCCCCCCCCCCC	DUAL	1	010	APR	24	3	FEB	01		212	000	APR	24	3	370	000	9	240	6	080	14.2
1975	CCCCCCCCCCCC	DUAL	1	020	APR	24	11	FEB	27		91	700	APR	24	2	070	000	5	680	6	030	13.2
1976	CCCCCCCCCCCC	DUAL		807	APR	11	10	OCT	19		103	000	APR	09	1	890	000	5	170	5	970	12.4
1977	CCCCCCCCCCCC	DUAL		238	APR	14	6	MAY	10		5	260	APR	13		51	500		141	5	580	14.1
1978	CCCCCCCCCCCC	MANUAL		760	APR	11	13	FEB	05		115	000	APR	14	2	010	000	5	510	5	570	13.2
1979	CCCCCCCCCCCC	MANUAL		795	APR	22	10	DEC	19		161	000	APR	23	3	710	000 *	10	200	5	650	12.7
1980	CCCCCCCCCCCC	MANUAL	1	850	APR	14	9	DEC	17		163	000	APR	12	1	460	000	3	980	5	740	12.4
1981	CCCCCCCCCCCC	MANUAL		116	APR	26	8	JAN	16		3	940	APR	02		88	800		238	5	450	13.4
1982	CCCCCCCCCCCC	MANUAL	1	210	APR	17	6	FEB	19		124	000	APR	17	1	540	000	4	220	5	380	12.9
1983	CCCCCCCCCCCC	MANUAL		487	APR	14	12	JAN	14		51	700	APR	10	1	380	000	3	780	5	320	12.5
1984	CCCCCCCCCCCC	MANUAL	1	020	JUN	16	11	FEB	10		98	800	APR	07	1	220	000	3	340	5	230	12.3
1985	CCCCCCCCCCCC	MANUAL	1	660	MAY	20	12	MAR	12		84	800	MAY	20	1	530	000	4	180	5	180	11.9
1986	CCCCCCCCCCCC	MANUAL		618	APR	05	7	MAR	06		80	400	APR	05	1	700	000	4	650	5	180	11.4

DUAL - MANUAL AND AUTOMATIC SAMPLING MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ROSEAU RIVER AT GARDENTON - STATION NO. 05OD004

SUSPENDED SEDIMENT FOR 1986

LOCATION: LAT 49 05 16 N LONG 96 41 15 W
DRAINAGE AREA: 4 470 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 17 200 TONNES FOR THE PERIOD MAR 01 TO OCT 31

REMARKS:

	MAR			APR			MAY			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	0.599 B	10	0.52	54.8	125	592	78.0	30	202	1
2	0.605 B	10	0.52	54.9	90 S	427	78.9	32 S	218	2
3	0.609 B	11	0.58	55.6	78	375	76.2	34 S	224	3
4	0.600 B	12	0.62	55.5	69 S	331	73.7	38	242	4
5	0.584 B	11	0.55	55.3	59 S	282	76.0	34	223	5
6	0.581 B	10	0.50	55.6	54	259	76.5	30 S	198	6
7	0.588 B	9	0.46	56.2	52	252	75.7	28	183	7
8	0.618 B	9	0.48	56.5	52 S	254	75.0	27 S	175	8
9	0.640 B	9	0.50	58.4	52	262	75.4	31 S	202	9
10	0.682 B	10	0.59	60.4	60 S	313	75.7	30	196	10
11	0.775 B	10	0.67	62.6	80	325	76.1	31	204	11
12	2.98 B	9	2.32	63.8	57	314	78.2	33	223	12
13	3.17 B	10	2.74	67.5	54	315	77.4	34	227	13
14	2.67 B	10	2.31	68.4	51 S	301	77.1	34	226	14
15	2.37 B	10	2.05	69.4	48 S	288	77.0	38	253	15
16	2.39 B	9	1.86	71.0	55 S	337	75.1	38	247	16
17	2.26 B	8	1.56	71.1	54	332	74.0	38	243	17
18	2.08 B	8 S	1.44	71.5	41 S	253	73.2	37	234	18
19	1.81 B	10	1.56	73.7	36	229	72.0	34	212	19
20	2.41 B	11	2.29	73.3	35	222	71.1	30 S	184	20
21	2.28 B	12	2.36	72.1	34 S	212	70.2	25	152	21
22	1.82 B	14	2.20	70.4	34	207	69.4	23 S	138	22
23	2.48 B	16	3.43	69.1	42 S	251	68.6	22	130	23
24	5.03 B	18	7.82	66.3	47	269	67.8	22 S	129	24
25	5.77 B	23	11.5	65.9	46	262	67.4	21	122	25
26	5.92 B	27	15.1	68.3	46	271	66.4	20	115	26
27	8.19 B	28	19.8	68.6	42	249	65.5	19	108	27
28	12.4 B	27	28.9	71.4	33 S	204	64.5	20 S	111	28
29	20.8 B	34	61.1	72.8	31	195	63.1	20	109	29
30	31.0 B	65	174	73.5	31 S	197	61.4	20	106	30
31	50.2 B	141 S	612				59.4	20	103	31
TOTAL	175.915		983.34	1 953.9		8 580	2 236.1		5 839	TOTAL

	JUN			JUL			AUG			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	57.5	20 S	99.4	4.68	15	6.07	3.40	25	7.34	1
2	55.9	20	96.6	4.21	14	5.09	2.93	25	6.33	2
3	54.5	19 S	89.5	3.94	14	4.77	2.48	26 S	5.57	3
4	52.6	18	81.8	4.01	28 S	9.70	2.15	25	4.64	4
5	51.0	22	98.9	7.64	59	38.9	1.81	25	3.91	5
6	49.6	27 S	116	7.99	48	33.1	1.54	25	3.33	6
7	48.4	28	117	8.02	34 S	23.8	1.41	26	3.17	7
8	46.4	25	100	8.19	22	15.6	1.15	26 S	2.58	8
9	44.2	19 S	72.6	7.73	18	12.0	1.04	26	2.34	9
10	41.1	19	67.5	7.08	32	19.6	0.984	27	2.30	10
11	35.8	20	61.9	6.89	35	20.8	0.898	27	2.10	11
12	29.8	23	59.2	6.64	37	21.2	0.870	26 S	1.95	12
13	24.0	33 S	47.7	6.41	38	21.0	0.898	26	2.02	13
14	19.4	22	36.8	6.00	42	21.8	1.15	26	2.58	14
15	16.5	21	29.9	5.80	41 S	19.8	0.978	26	2.20	15
16	14.7	21 S	26.7	5.03	41	17.8	0.770	26	1.73	16
17	13.1	24	27.2	4.51	45 S	17.5	0.606	27	1.41	17
18	12.0	22	22.8	4.16	45	16.2	0.522	25	1.13	18
19	11.0	23 S	21.9	4.12	39	13.9	0.452	25	0.98	19
20	10.9	23	21.7	4.20	33	12.0	0.369	25 S	0.80	20
21	10.9	24	22.6	4.07	28	9.85	0.297	30 S	0.77	21
22	10.1	25	21.8	3.66	25 S	7.91	0.269	30	0.70	22
23	9.61	28 S	23.2	3.29	24	6.82	0.248	31	0.66	23
24	9.20	29	23.1	3.00	24	6.22	0.241	30	0.62	24
25	8.37	27	19.5	2.97	25	6.42	0.266	36	0.83	25
26	7.48	21	13.6	2.86	26	6.42	0.725	36	2.26	26
27	6.76	17	9.96	3.04	26 S	6.83	0.650	35	1.97	27
28	6.11	15 S	7.92	3.12	27	7.28	0.547	34	1.61	28
29	5.49	13	6.17	2.89	25	6.24	0.428	33	1.22	29
30	5.09	14	6.16	3.30	24 S	6.84	0.245	34	0.72	30
31				3.70	24	7.67	0.284	35	0.80	31
TOTAL	767.53		1 447.21	152.95		428.93	30.589		70.57	TOTAL

B - ICE CONDITIONS S - SAMPLE(S) COLLECTED THIS DAY

MANITOBA

ROSEAU RIVER AT GARDENTON - STATION NO. 05OD004

SUSPENDED SEDIMENT FOR 1986

DAY	SEP DAILY DISCHARGE (m^3/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	0.257	34	0.75	0.973	18	1.51				1
2	0.377	39	1.27	1.08	17	1.80				2
3	0.496	35	1.50	1.12	15 $	1.45				3
4	0.375	32	1.04	1.15	14	1.38				4
5	0.288	32	0.80	1.00	15	1.30				5
6	0.260	32	0.72	1.07	15	1.39				6
7	0.275	31	0.74	1.45	15	1.88				7
8	0.275	30	0.71	1.56	16	2.16				8
9	0.256	31	0.69	1.36	16	1.91				9
10	0.273	31	0.73	1.19	16	1.65				10
11	0.383	31	1.03	1.10	15	1.43				11
12	0.298	30	0.77	1.85	16	2.57				12
13	0.271	30	0.70	1.73	15	2.24				13
14	0.285	30	0.69	1.60	14	1.84				14
15	0.255	31	0.68	1.55	13	1.74				15
16	0.260	30	0.67	1.44	15	1.87				16
17	0.285	29	0.71	1.40	14	1.69				17
18	0.281	29	0.70	1.35	14	1.63				18
19	0.281	28	0.68	1.31	14	1.58				19
20	0.252	28	0.61	1.20	12	1.24				20
21	0.250	25	0.54	1.27	12	1.32				21
22	0.270	25	0.58	1.33	13	1.49				22
23	0.303	25	0.65	1.46	13	1.64				23
24	0.369	26	0.83	1.51	13	1.70				24
25	0.413	28	1.00	1.49	10	1.29				25
26	0.371	27	0.87	1.34	9	1.04				26
27	0.399	26	0.90	1.21	10	1.05				27
28	2.05	31	5.49	1.07	11	1.02				28
29	1.90	24	3.94	0.888	11	0.94				29
30	1.21	19	1.98	0.948	10	0.82				30
31				1.00	9	0.78				31
TOTAL	13.498		32.98	40.139		47.25				TOTAL

5 - SAMPLE(S) COLLECTED THIS DAY

ROSEAU RIVER AT GARDENTON - STATION NO. 05OD004

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)		SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 18	15:00	0.5	2.07	B	9.0		DH59	9	503														
MAR 31	15:00	4.0	50.2	W	9.0		DH59	163															
MAR 31	18:00	3.0	55.0	B	9.0		DH59	179	171														
MAR 31	18:05	3.0	10.2		15.5	M	DH59	148	184														
MAR 31	18:10	3.0	11.5		19.0	M	DH59	151	185														
MAR 31	18:15	3.0	12.9		23.0	M	DH59	159	173														
MAR 31	18:20	3.0	11.9		27.0	M	DH59	170	186														
MAR 31	18:25	3.0	8.40		33.0	M	DH59	214	184														
APR 02	12:15	4.0	54.9		9.0		DH59	89															
APR 04	11:15	5.0	55.4		9.0		DH59	70															
APR 04	18:00	6.0	55.0		9.0		DH59	67															
APR 05	18:00	6.0	55.2		9.0		DH59	57															
APR 08	14:30	9.0	56.4		9.0		DH59	52	206														
APR 10	14:30	11.0	60.6		9.0		DH59	63															
APR 14	14:00	2.0	68.5		9.0		DH59	50															
APR 15	12:30	2.0	69.3		9.0		DH59	48	217														
APR 16	14:15	6.0	71.0		9.0		DH59	59															
APR 18	14:00	8.0	71.3		9.0		DH59	40															
APR 21	08:30	3.0	72.3		9.0		DH59	34	218														
APR 23	11:00	9.0	69.1		9.0		DH59	43															
APR 28	14:00	6.0	73.2		9.0		DH59	32	244														
APR 30	18:30	8.0	76.3		9.0		DH59	31															
MAY 02	10:15	6.0	79.3		9.0		DH59	33															
MAY 02	16:00	8.0	78.7		9.0		DH59	32															
MAY 03	16:30	11.0	75.8		9.0		DH59	34	266														
MAY 05	09:00	13.0	77.2		9.0		DH59	31															
MAY 08	10:00	10.0	75.0		9.0		DH59	27															
MAY 09	10:00	9.0	75.2		9.0		DH59	31	261														
MAY 20	15:30	7.0	71.0		9.0		DH59	28	260														
MAY 22	10:15	17.0	88.4		9.0		DH59	23															
MAY 24	15:30	18.0	87.8		9.0		DH59	23															
MAY 28	07:45	22.0	64.8		9.0		DH59	20	259														
JUN 01	14:00	22.0	57.3		9.0		DH59	20															
JUN 03	16:00	20.0	54.2		9.0		DH59	18															
JUN 06	14:30	20.5	49.4		9.0		DH59	28	289														
JUN 09	17:00	21.0	43.7		9.0		DH59	19															
JUN 13	17:30	19.0	22.8		9.0		DH59	22	307														
JUN 16	13:00	17.0	14.5		9.0		DH59	20	314														
JUN 16	16:00	17.0	14.3		9.0		DH59	22															
JUN 19	09:00	21.5	11.1		9.0		DH59	23															
JUN 23	19:30	21.0	9.55		9.0		DH59	29	317														
JUN 28	10:30	24.0	6.17		9.0		DH59	14															
JUL 04	09:15	23.0	4.04		9.0		DH59	16	312														
JUL 07	20:00	25.0	8.18		9.0		DH59	29															
JUL 15	15:00	21.5	5.60		9.0		DH59	42	270														
JUL 17	10:30	23.0	4.50		9.0		DH59	43															
JUL 17	14:30	24.0	4.40		9.0		DH59	47															
JUL 22	18:30	26.5	3.52		9.0		DH59	25	277														
JUL 27	18:30	26.0	3.00		9.0		DH59	27															
JUL 30	17:00	25.0	3.49		9.0		DH59	24	293														
AUG 03	18:30	24.0	2.38		9.0		DH59	25															
AUG 08	16:15	25.0	1.13		9.0		DH59	26	291														
AUG 12	14:15	23.0	0.873		9.0		DH59	26															
AUG 20	13:00	22.0	0.370		9.0		DH59	25	288														
AUG 21	10:00	18.0	0.298		9.0		DH59	30															
OCT 03	09:40	9.0	1.07		9.0		DH59	15	316														
NOV 04	09:30	0.5			MID	X	DIP	13	319														

NOTE - SINGLE VERTICAL LOCATED AT 9.0 METRES FOR 1986

DISCHARGE SYMBOL(S): B - ICE CONDITIONS W - DAILY MEAN; ICE CONDITIONS
VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY MAR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1972	-------CCCC-	MANUAL	22	AUG 12	2	NOV 02	4.17	AUG 13	58.9	---	---	---
1973	---CCCCCCC--	MANUAL	48	OCT 02	1	JUN 16 *	87.9	OCT 02	2 030	---	---	---
1974	---PCCCCCCC-	MANUAL	322	MAY 20 *	5	OCT 08	2 450	MAY 20 *	33 400 *	---	---	---
1975	---CCCCCCCP-	MANUAL	217	APR 22	3	SEP 19	682	MAY 05	20 900	---	---	---
1976	--CCCCCCCC--	MANUAL	240	APR 06	7	AUG 11	726	APR 06	7 320	29.8	29.8	---
1977	--CCCCCCCC--	MANUAL	228	MAY 19	2	MAY 12	42.4	MAY 31	970	3.86	16.9	76.7
1978	--CCCCCCCC--	MANUAL	186	APR 18	5	OCT 05	783	APR 18	10 800	43.1	25.7	44.7
1979	--CCCCCCCC--	MANUAL	197	APR 21	6	JUL 04	654	APR 21	13 700	56.0	33.2	33.6
1980	--CCCCCCCC--	MANUAL	122	APR 13	5	OCT 20	314	APR 14	2 110	8.59	28.3	35.1
1981	--CCCCCCCC--	MANUAL	31	JUN 16	6	MAR 25	45.7	JUL 04	1 540	6.27	24.6	36.2
1982	--CCCCCCCC--	MANUAL	73	APR 17	5	JUN 27	250	APR 15	7 020	28.7	25.2	29.9
1983	--CCCCCCCC--	MANUAL	87	APR 08	4	JUN 11	390	APR 08	5 880	24.0	25.6	25.5
1984	-PCCCCCCCC--	MANUAL	172	APR 04	3	JUN 02	584	APR 04	7 230	29.5	26.0	22.2
1985	--CCCCCCCCP-	MANUAL	193	APR 03	12	MAY 08	282	APR 04	12 400	50.5	28.5	20.1
1986	--CCCCCCCCP-	MANUAL	214	MAR 31	9	MAR 18	612	MAR 31	17 200	70.2	32.2	19.9

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MANITOBA

ROSEAU RIVER NEAR DOMINION CITY - STATION NO. 05OD001

SUSPENDED SEDIMENT FOR 1986

LOCATION: LAT 49 11 53 N LONG 97 03 15 W
DRAINAGE AREA: 5 200 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 48 800 TONNES FOR THE PERIOD JAN 01 TO DEC 31

REMARKS:

	JAN			FEB			MAR			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	1.34 B	8	0.93	0.856 B	13	0.74	0.512 B	16	0.71	1
2	1.28 B	8	0.88	0.824 B	14	0.75	0.510 B	16	0.71	2
3	1.24 B	8	0.86	0.819 B	14	0.75	0.503 B	16	0.70	3
4	1.20 B	9	0.93	0.844 B	14	0.78	0.505 B	16	0.70	4
5	1.17 B	8	0.81	0.685 B	14	0.83	0.526 B	16	0.73	5
6	1.15 B	8 S	0.79	0.704 B	15	0.91	0.535 B	16	0.74	6
7	1.09 B	8	0.75	0.726 B	15	0.94	0.507 B	16	0.70	7
8	1.03 B	8	0.71	0.759 B	15	0.98	0.479 B	16	0.66	8
9	1.00 B	7	0.60	0.808 B	14	0.98	0.455 B	16	0.63	9
10	1.02 B	8	0.71	0.844 B	15	1.09	0.440 B	16	0.61	10
11	1.05 B	8	0.73	0.851 B	16 S	1.18	0.455 B	16	0.63	11
12	1.07 B	7	0.65	0.827 B	16	1.14	0.485 B	16	0.64	12
13	1.09 B	8	0.75	0.783 B	16	1.08	0.477 B	16	0.66	13
14	1.07 B	8	0.74	0.738 B	16	1.02	0.489 B	16	0.68	14
15	1.05 B	8	0.73	0.692 B	16	0.96	0.516 B	16	0.71	15
16	1.01 B	8	0.78	0.672 B	16	0.93	2.01 B	18	3.13	16
17	0.956 B	9	0.77	0.660 B	16	0.91	2.79 B	32	8.30	17
18	0.956 B	10	0.85	0.646 B	16	0.89	2.27 B	20 S	3.82	18
19	0.951 B	10	0.86	0.636 B	16	0.88	1.87 B	22	3.74	19
20	1.00 B	11	0.95	0.608 B	16	0.84	1.68 B	20	3.25	20
21	1.02 B	10	0.88	0.570 B	16	0.79	1.84 B	20	3.14	21
22	1.02 B	10	0.88	0.549 B	16	0.76	1.97 B	25	4.26	22
23	0.959 B	11	0.91	0.531 B	16	0.73	3.44 B	64	13.5	23
24	0.909 B	10	0.78	0.507 B	16	0.70	3.37 B	90	26.2	24
25	0.934 B	11	0.89	0.487 B	16	0.67	4.82 B	104	41.8	25
26	0.943 B	12	0.98	0.484 B	16	0.67	7.62 B	115	76.7	26
27	0.941 B	12	0.98	0.489 B	16	0.69	9.32 B	142	114	27
28	0.885 B	12	0.93	0.508 B	16	0.70	23.6 B	165	336	28
29	0.824 B	12	0.83				45.7 B	207	817	29
30	0.764 B	14	0.92				65.4 B	333	1 880	30
31	0.705 B	13	0.79				73.3 B	359 S	2 270	31
TOTAL	31.737		25.65	18.315		24.29	267.374		5 609.89	TOTAL

	APR			MAY			JUN			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	76.7	265 S	1 760	97.9	66	558	63.5	70 S	384	1
2	76.9	180 S	1 200	100	63 S	544	61.4	72 S	382	2
3	74.5	166 S	1 070	97.4	62 S	522	59.6	69 S	365	3
4	72.2	157 S	979	92.6	65	521	57.8	65	325	4
5	70.6	164 S	1 000	86.9	71 S	545	55.6	64 S	307	5
6	69.3	159 S	952	90.0	69 S	537	53.7	66 S	306	6
7	68.5	161 S	953	89.5	65 S	503	52.3	72 S	325	7
8	67.9	160 S	939	87.5	46 S	348	50.3	70 S	304	8
9	67.1	140 S	812	85.9	51 S	379	48.2	83 S	282	9
10	67.6	137 S	800	85.4	51 S	376	45.9	89 S	274	10
11	68.7	136 S	807	85.6	58 S	426	41.9	87 S	243	11
12	69.8	143 S	862	87.7	80 S	485	36.3	86 S	213	12
13	70.5	141	859	85.3	47 S	353	30.4	83 S	165	13
14	72.5	133 S	770	87.9	43 S	327	25.1	96 S	121	14
15	73.3	115 S	728	86.3	47 S	350	21.0	90	80.7	15
16	74.1	112 S	717	85.0	46 S	353	17.6	45 S	68.4	16
17	75.1	126	818	82.8	43 S	308	14.8	42 S	53.7	17
18	75.1	138 S	902	81.3	44 S	309	14.1	39 S	47.5	18
19	76.6	167 S	1 040	80.0	45 S	311	13.8	42	50.1	19
20	78.5	148 S	1 000	78.6	48 S	326	13.3	42 S	48.3	20
21	79.7	79 S	544	77.5	54 S	362	12.9	40	44.6	21
22	78.3	73 S	494	76.5	58 S	383	12.4	38	40.7	22
23	76.6	75 S	496	76.4	59 S	384	11.9	34 S	35.1	23
24	74.7	85 S	548	74.4	63 S	405	11.1	37	35.6	24
25	71.9	88 S	534	73.6	64 S	407	10.4	36	32.3	25
26	72.4	102 S	638	72.7	64 S	402	9.85	35	28.9	26
27	78.0	87 S	654	71.5	58 S	358	8.43	33 S	24.0	27
28	82.8	88 S	687	70.3	62 S	377	7.34	33	20.9	28
29	88.0	79 S	601	69.1	65 S	388	6.50	33	18.5	29
30	90.6	78 S	611	67.6	68 S	397	5.84	34	17.2	30
31				65.6	68 S	385				31
TOTAL	2 239.4		24 778	2 554.0		12 811	672.98		4 626.4	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

ROSEAU RIVER NEAR DOMINION CITY - STATION NO. 05OD001

SUSPENDED SEDIMENT FOR 1986

DAY	JUL DAILY DISCHARGE (m^3/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	AUG DAILY DISCHARGE (m^3/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	SEP DAILY DISCHARGE (m^3/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	DAY
1	5.32	34	15.8	2.96	39	9.87	0.469	75 S	2.91	1
2	4.84	33	13.8	2.73	35 S	8.28	0.442	65	2.48	2
3	4.52	33	12.9	2.42	35	7.32	0.401	50	1.73	3
4	4.81	34	14.1	2.13	35 S	6.62	0.537	43 S	2.00	4
5	4.47	37	14.3	1.80	37	5.75	0.645	44	2.45	5
6	8.15	59 S	41.5	1.58	38	4.91	0.506	47	2.05	6
7	8.57	57	47.1	1.43	35 S	4.32	0.426	52	1.91	7
8	8.90	50	38.4	1.30	34	3.82	0.363	53 S	1.66	8
9	8.45	46 S	33.6	1.10	34 S	3.23	0.312	44	1.19	9
10	7.83	43	29.1	0.926	34	2.72	0.323	37	1.03	10
11	7.74	42	28.1	0.833	33	2.35	0.388	34 S	1.08	11
12	7.08	43 S	26.3	0.782	31	2.04	0.326	36	1.01	12
13	7.12	46	27.7	0.735	28 S	1.78	0.336	36 S	1.05	13
14	8.84	44 S	33.4	0.753	31	2.01	0.401	34	1.18	14
15	6.58	43	24.4	0.740	34	2.17	0.318	30	0.82	15
16	6.17	42	22.4	0.799	36 S	2.48	0.309	25	0.67	16
17	5.78	44 S	22.0	0.731	36	2.27	0.321	24 S	0.67	17
18	5.33	43	19.8	0.648	34	1.90	0.345	22	0.66	18
19	4.84	41	17.1	0.599	32 S	1.66	0.342	21 S	0.62	19
20	4.57	40 S	15.8	0.541	28 S	1.36	0.334	24	0.69	20
21	4.53	41	16.0	0.481	30	1.25	0.332	27	0.77	21
22	4.27	42	15.5	0.437	34 S	1.26	0.388	30 S	1.01	22
23	3.95	43 S	14.7	0.405	33	1.15	0.408	30	1.06	23
24	3.53	44	13.4	0.361	31	0.97	0.386	30	1.00	24
25	3.08	47 S	12.5	0.340	32 S	0.94	0.423	29	1.06	25
26	2.96	46	11.8	0.315	34	0.93	0.485	30	1.21	26
27	2.96	43	11.0	0.303	33	0.86	0.578	30 S	1.50	27
28	2.88	42 S	10.5	0.474	35	1.43	0.588	31	1.57	28
29	2.86	44	10.8	0.807	55 S	2.88	0.676	32	1.87	29
30	2.71	45	10.5	0.657	90	4.33	2.33	33	6.64	30
31	2.87	47 S	10.8	0.488	88	3.63				31
TOTAL	185.41		626.0	30.274		96.61	14.376		45.55	TOTAL

DAY	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	NOV DAILY DISCHARGE (m^3/s)	NOV MEAN CONCENTRATION (mg/L)	NOV DAILY LOAD (t)	DEC DAILY DISCHARGE (m^3/s)	DEC MEAN CONCENTRATION (mg/L)	DEC DAILY LOAD (t)	DAY
1	2.11	32 S	5.83	1.16	12	1.20	0.745 B	10	0.84	1
2	1.66	27	3.87	1.07 B	12	1.11	0.712 B	11	0.88	2
3	1.55	18 S	2.41	1.58 B	11	1.50	0.782 B	11	0.74	3
4	1.51	13 S	1.70	2.09 B	12	2.17	0.617 B	11	0.78	4
5	1.68	13	1.90	2.73 B	20 S	4.72	0.736 B	11	0.70	5
6	1.81	14	1.95	2.16 B	21	3.92	0.680 B	10	0.59	6
7	1.55	14	1.87	1.43 B	18	1.98	0.598 B	10	0.52	7
8	1.62	16 S	2.52	1.17 B	15	1.52	0.598 B	10	0.52	8
9	1.74	15	2.26	1.84 B	14	1.98	0.679 B	10 S	0.59	9
10	1.68	14	2.01	2.00 B	13	2.25	0.729 B	10	0.63	10
11	1.54	11	1.46	1.46 B	14	1.77	0.658 B	10	0.57	11
12	1.42	9	1.10	0.940 B	14	1.14	0.776 B	10	0.67	12
13	1.58	9 S	1.23	1.26 B	14	1.62	0.861 B	10	0.85	13
14	1.81	10	1.56	1.15 B	14	1.44	0.917 B	10	0.79	14
15	1.78	11	1.70	1.00 B	14	1.21	0.825 B	10	0.71	15
16	1.70	11	1.62	1.39 B	14	1.68	0.811 B	10	0.70	16
17	1.65	12 S	1.71	1.79 B	14	2.17	0.976 B	10	0.84	17
18	1.53	14	1.85	1.60 B	14	1.94	0.977 B	10	0.84	18
19	1.47	15	1.91	1.26 B	14	1.52	0.925 B	10	0.80	19
20	1.48	17 S	2.19	1.26 B	13	1.42	0.946 B	10	0.82	20
21	1.34	16	1.85	1.25 B	13	1.40	0.922 B	10	0.80	21
22	1.32	15	1.71	1.06 B	14	1.26	0.856 B	10	0.74	22
23	1.34	14 S	1.62	1.05 B	13	1.18	0.791 B	10	0.68	23
24	1.35	14	1.63	1.10 B	13	1.24	0.735 B	10	0.64	24
25	1.48	13	1.66	1.19 B	13	1.34	0.701 B	10	0.61	25
26	1.51	11	1.44	1.34 B	13	1.51	0.711 B	10	0.61	26
27	1.44	11 S	1.37	1.13 B	12	1.17	0.683 B	10	0.59	27
28	1.36	11	1.29	0.843 B	12	0.87	0.652 B	10	0.56	28
29	1.30	12	1.35	0.843 B	12	0.87	0.674 B	10	0.58	29
30	1.24	12	1.29	0.825 B	11	0.78	0.696 B	10	0.60	30
31	1.20	11 S	1.14				0.745 B	10	0.64	31
TOTAL	47.76		59.00	40.811		49.80	24.038		21.03	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

ROSEAU RIVER NEAR DOMINION CITY - STATION NO. 05DD001

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)		SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT CONCENT (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 06	12 00	0.5	1.15	W	4.5	X	DH48	8	373														
FEB 11	12 30	0.5	0.851	W	4.0	X	DH48	16	397														
MAR 18	11 45	0.5	2.27	W	7.0	X	DH48	20	509														
MAR 31	14 30	3.0	72.6		65.0		DH59	332	163														
MAR 31	14 35	3.0	21.8		8.0	I	DH59	405	153														
MAR 31	14 40	3.0	15.5		12.5	I	DH59	393	178														
MAR 31	14 45	3.0	16.4		17.0	I	DH59	310	172														
MAR 31	14 50	3.0	13.1		21.5	I	DH59	282	174														
MAR 31	14 55	3.0	5.70		24.5	I	DH59	286	186														
APR 01	08 45	2.0	76.0		65.0		DH59	252															
APR 02	08 45	3.0	77.4		65.0		DH59	158															
APR 03	09 00	3.0	74.8		65.0		DH59	150															
APR 04	08 45	3.0	72.5		65.0		DH59	131															
APR 04	14 15	6.0	71.9		65.0		DH59	130															
APR 05	09 50	5.0	70.7		65.0		DH59	133															
APR 06	10 45	6.0	69.3		65.0		DH59	126	208														
APR 07	09 30	7.0	68.5		65.0		DH59	128															
APR 08	08 45	7.0	68.1		65.0		DH59	128															
APR 09	08 50	7.0	67.0		65.0		DH59	110															
APR 10	08 30	7.0	67.4		65.0		DH59	108															
APR 11	08 30	8.0	68.5		65.0		DH59	107															
APR 12	09 15	2.0	69.7		65.0		DH59	118															
APR 14	08 30	1.0	72.3		65.0		DH59	102	220														
APR 14	11 30	1.0	72.4		65.0		DH59	87															
APR 15	08 15	0.0	73.3		65.0		DH59	90															
APR 16	08 30	2.0	73.8		65.0		DH59	86															
APR 20	09 30	1.0	79.5		65.0		DH59	104															
APR 21	08 30	4.0	79.9		65.0		DH59	80															
APR 22	08 30	4.0	78.6		65.0		DH59	87	237														
APR 23	08 30	3.0	76.6		65.0		DH59	55															
APR 24	08 30	4.0	75.1		65.0		DH59	85															
APR 25	08 30	4.0	71.8		65.0		DH59	80															
APR 26	08 45	2.0	71.9		65.0		DH59	75															
APR 27	11 45	2.0	78.2		65.0		DH59	69															
APR 28	08 50	4.0	81.8		65.0		DH59	71															
APR 29	08 45	5.0	87.9		65.0		DH59	55	273														
APR 30	08 30	2.0	89.5		65.0		DH59	95															
APR 30	10 30	8.0	22.1		12.0	M	DH59	78	266														
APR 30	10 35	8.0	28.7		19.0	M	DH59	93	259														
APR 30	10 40	8.0	19.0		22.0	M	DH59	80	262														
APR 30	10 45	8.0	10.6		25.0	M	DH59	73	263														
APR 30	10 50	8.0	9.30		28.0	M	DH59	67	262														
APR 30	10 55	8.0	89.8		65.0		DH59	58	265														
APR 30	12 15	8.0	90.2		65.0		DH59	57	268														
MAY 02	08 45	4.0	100		65.0		DH59	47															
MAY 02	11 30	7.0	100		65.0		DH59	47															
MAY 03	10 00	7.0	97.8		65.0		DH59	44															
MAY 05	08 30	12.0	89.2		65.0		DH59	52															
MAY 06	08 30	12.0	89.9		65.0		DH59	48															
MAY 07	08 45	10.0	90.1		65.0		DH59	51	277														
MAY 08	09 20	10.0	87.7		65.0		DH59	32															
MAY 09	08 30	9.0	86.1		65.0		DH59	37															
MAY 10	10 00	10.0	85.3		65.0		DH59	36															
MAY 11	09 45	12.0	85.3		65.0		DH59	42	250														
MAY 12	08 45	9.0	87.2		65.0		DH59	46															
MAY 13	08 30	9.0	89.6		65.0		DH59	34															
MAY 13	12 15	17.0	87.7		65.0		DH59	34															
MAY 14	08 45	15.0	88.1		65.0		DH59	32															
MAY 15	09 00	14.0	86.3		65.0		DH59	34															
MAY 16	08 45	14.0	85.2		65.0		DH59	36															
MAY 17	08 45	17.0	83.2		65.0		DH59	31	250														
MAY 18	09 00	12.0	81.6		65.0		DH59	33															
MAY 20	08 30	13.0	78.7		65.0		DH59	35															
MAY 21	08 50	16.0	97.8		65.0		DH59	38															
MAY 22	08 30	15.0	78.8		65.0		DH59	42															
MAY 23	08 45	18.0	75.6		65.0		DH59	43															
MAY 24	08 45	18.0	74.5		65.0		DH59	48	259														
MAY 25	09 00	16.0	73.7		65.0		DH59	46															
MAY 26	08 30	17.0	72.9		65.0		DH59	48															
MAY 27	08 45	18.0	71.7		65.0		DH59	43															
MAY 28	08 45	20.0	70.5		65.0		DH59	46															
MAY 29	08 30	22.0	69.4		65.0		DH59	48															
MAY 30	09 00	23.0	67.8		65.0		DH59	52															
MAY 31	11 45	23.0	65.7		65.0		DH59	50	273														
JUN 01	09 00	22.0	63.9		65.0		DH59	54															
JUN 02	08 45	19.0	61.8		65.0		DH59	57															
JUN 03	08 45	19.0	59.9		65.0		DH59	54															
JUN 05	08 35	17.0	55.3		65.0		DH59	51															
JUN 06	08 45	17.0	53.9		65.0		DH59	53															
JUN 07	09 30	17.0	52.4		65.0		DH59	59	278														
JUN 08	09 00	17.0	50.8		65.0		DH59	58															
JUN 09	08 45	16.0	48.5		65.0		DH59	50															
JUN 10	09 00	18.0	46.4		65.0		DH59	58															
JUN 11	08 45	16.0	42.8		65.0		DH59	56															
JUN 12	08 50	17.0	37.1		65.0		DH59	57															
JUN 13	08 40	17.0	31.1		65.0		DH59	54															
JUN 14	09 45	16.0	25.5		65.0		DH59	49	308														
JUN 16	08 15	15.0	18.0		65.0		DH59	41															
JUN 17	12 30	18.0	14.5		65.0		DH59	36															
JUN 18	08 50	18.0	14.1		65.0		DH59	33															
JUN 20	08 30	22.0	13.4		65.0		DH59	38															
JUN 23	08 40	19.0	12.0		65.0		DH59	35	317														
JUN 27	08 45	22.0	8.56		65.0		DH59	33															
JUL 06	11 45	22.0	8.36		65.0		DH59	57	300														
JUL 09	08 50	22.0	8.56		65.0		DH59	42															
JUL 12	07 45	16.0	7.09		65.0		DH59	38															
JUL 14	09 00	17.0	7.00		65.0		DH59	41	299														
JUL 17	09 20	22.0	6.78		65.0		DH59	40															
JUL 17	11 30	21.0	5.74		65.0		DH59	41															
JUL 20	08 45	21.0	4.63		65.0		DH59	37															
JUL 23	08 45	23.0	3.97		65.0		DH59	40	304														
JUL 25	08 30	21.0	3.13		65.0		DH59	46															

NOTE : SINGLE VERTICAL LOCATED AT 65.0 METRES FOR 1986

DISCHARGE SYMBOL(S): W - DAILY MEAN, ICE CONDITIONS

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL M - A SEDIMENT MEASUREMENT VERTICAL
I - A SEDIMENT MEASUREMENT VERTICAL NOT AT THE REGULAR MEASUREMENT CROSS-SECTION

CONTINUED

ROSEAU RIVER NEAR DOMINION CITY - STATION NO. 05OD001 (CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP (°C)	INSTANT. DISCHARGE (m^3/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT CONCENT (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JUL 28	09:15	22.0	2.80	85.0	DH59	39															
JUL 31	08:45	20.0	2.56	85.0	DH59	46	308														
AUG 02	08:45	19.0	2.77	85.0	DH59	34															
AUG 04	10:00	21.0	2.17	85.0	DH59	36															
AUG 07	09:45	22.0	1.40	85.0	DH59	34	314														
AUG 09	08:50	22.0	1.12	85.0	DH59	33															
AUG 13	08:50	18.0	0.730	85.0	DH59	27	314														
AUG 16	10:10	20.0	0.817	85.0	DH59	35															
AUG 18	09:45	19.0	0.808	85.0	DH59	33															
AUG 20	13:00	23.0	0.651	85.0	DH59	28	323														
AUG 22	10:10	12.0	0.438	85.0	DH59	34															
AUG 25	09:45	11.0	0.338	85.0	DH59	33															
AUG 29	08:30	13.0	0.820	85.0	DH59	38	333														
SEP 01	08:15	10.0	0.453	85.0	DH59	77															
SEP 04	08:15	14.0	0.634	85.0	DH59	43															
SEP 08	08:30	11.0	0.384	85.0	DH59	55	299														
SEP 11	08:15	12.0	0.386	85.0	DH59	34															
SEP 13	11:45	11.0	0.318	85.0	DH59	36	300														
SEP 17	10:30	11.0	0.324	85.0	DH59	24															
SEP 19	08:50	11.0	0.339	85.0	DH59	21	303														
SEP 22	09:15	12.0	0.408	85.0	DH59	30															
SEP 27	09:30	14.0	0.495	85.0	DH59	30															
OCT 01	08:45	11.0	2.28	85.0	DH59	32	290														
OCT 03	12:50	10.0	1.49	85.0	DH59	15															
OCT 04	10:15	8.0	1.43	85.0	DH59	13															
OCT 08	08:45	7.0	1.84	85.0	DH59	17	297														
OCT 13	11:30	3.0	1.53	85.0	DH59	9															
OCT 17	09:30	5.0	1.66	85.0	DH59	12	345														
OCT 20	08:35	7.0	1.53	85.0	DH59	17															
OCT 23	08:45	7.0	1.34	85.0	DH59	14	320														
OCT 27	09:15	5.0	1.43	85.0	DH59	11															
OCT 31	08:45	2.0	1.20	85.0	DH59	12	358														
NOV 05	09:00	-1.0	2.73 B	85.0	DH59	16															
NOV 05	12:00	1.0	2.73 B	85.0	DH59	25	320														
DEC 09	13:30	0.5	0.692 B	5.5 X	DH59	10	437														

NOTE : SINGLE VERTICAL LOCATED AT 85.0 METRES FOR 1986

DISCHARGE SYMBOL(S) B - ICE CONDITIONS
VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY MAR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1972	·····CCCC·	MANUAL	103	SEP 06	8	OCT 27 *	8.59	AUG 14	224	---	---	---
1973	···CCCCCCC··	MANUAL	116	OCT 10	10	APR 23	229	SEP 30	3 980	---	---	---
1974	···PCCCCCCCC	MANUAL	328	APR 18	8	OCT 30	1 950	APR 18	46 500	---	---	---
1975	···PCCCCCC··	MANUAL	314	APR 23	12	OCT 03	1 850	MAY 08	49 100 *	---	---	---
1976	··CCCCCCC··	MANUAL	514	APR 07	16	OCT 09	1 870	APR 07	13 400	54.8	54.8	---
1977	··CCCCCCC··	MANUAL	189	APR 11	10	MAR 18	194	APR 13	1 610	8.57	30.7	78.6
1978	··CCCCCCC··	MANUAL	331	APR 18	8	OCT 14	1 410	APR 18	25 500	104	55.1	51.0
1979	CCCCCCCCCCC	MANUAL	287	APR 20	10	OCT 29	1 840	APR 21	37 100	151	79.1	39.4
1980	CCCCCCCCCCC	MANUAL	289	APR 14	8	OCT 26	996	APR 14	5 990	24.2	88.1	36.9
1981	CCCCCCCCCCC	MANUAL	58	JUL 20	8	OCT 02	75.5	JUL 05	3 610	13.5	59.0	39.8
1982	CCCCCCCCCCC	MANUAL	396	OCT 09	8	MAR 11	722	APR 18	21 700	85.4	82.8	33.2
1983	CCCCCCCCCCC	MANUAL	350	APR 09	8	DEC 05	2 820	APR 09 *	24 400	98.7	87.3	26.8
1984	CCCCCCCCCCC	MANUAL	510	MAY 11	8	FEB 26	969	APR 05	12 700	50.1	85.4	34.5
1985	CCCCCCCCCCC	MANUAL	5 770	MAY 16 *	8	JAN 15	1 320	APR 05	30 900	124	71.2	21.8
1986	CCCCCCCCCCC	MANUAL	405	MAR 31	8	JAN 06	2 270	MAR 31	46 800	198	82.8	21.9

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MANITOBA

SASKATCHEWAN RIVER AT THE PAS - STATION NO. 05KJ001

SUSPENDED SEDIMENT FOR 1986

LOCATION LAT 53 50 30 N LONG 101 11 10 W
DRAINAGE AREA 347 000 km²
TYPE OF FLOW REGULATED
TYPE OF GAUGE RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 2 070 000 TONNES FOR THE PERIOD JAN 01 TO DEC 31

REMARKS

DAY	JAN DAILY DISCHARGE (m³/s)	JAN MEAN CONCENTRATION (mg/L)	JAN DAILY LOAD (t)	FEB DAILY DISCHARGE (m³/s)	FEB MEAN CONCENTRATION (mg/L)	FEB DAILY LOAD (t)	MAR DAILY DISCHARGE (m³/s)	MAR MEAN CONCENTRATION (mg/L)	MAR DAILY LOAD (t)	DAY
1	295 B	41	1 050	386 B	23	727	513 B	27	1 200	1
2	311 B	41	1 100	371 B	23	737	519 B	28	1 260	2
3	321 B	42	1 160	401 B	23	797	513 B	30 S	1 330	3
4	328 B	43	1 220	423 B	22	804	501 B	30	1 300	4
5	336 B	43	1 250	428 B	22	814	492 B	29	1 230	5
6	346 B	44	1 320	424 B	21	769	487 B	29	1 220	6
7	363 B	44	1 380	415 B	21	753	491 B	28	1 230	7
8	378 B	44	1 440	403 B	20	695	502 B	28	1 210	8
9	400 B	44	1 520	386 B	20	667	517 B	27	1 210	9
10	441 B	45	1 710	366 B	20	636	525 B	27	1 220	10
11	474 B	46	1 880	357 B	19	586	526 B	27	1 230	11
12	494 B	46	1 980	353 B	19	579	518 B	26	1 160	12
13	500 B	47 S	2 030	352 B	18	547	506 B	26	1 140	13
14	486 B	45	1 940	355 B	18	552	498 B	26	1 120	14
15	492 B	44	1 870	359 B	18	558	489 B	26	1 100	15
16	487 B	43	1 810	359 B	18	558	478 B	26	1 070	16
17	493 B	41	1 750	355 B	17	521	463 B	27 S	1 080	17
18	503 B	40	1 740	355 B	17 S	521	448 B	26	1 010	18
19	514 B	38	1 690	366 B	18	572	435 B	25	940	19
20	524 B	37	1 680	387 B	18	602	425 B	24	881	20
21	532 B	36	1 650	401 B	19	658	415 B	24	851	21
22	535 B	34	1 570	419 B	20	724	411 B	23	817	22
23	537 B	32	1 480	439 B	21	797	409 B	23	813	23
24	532 B	31	1 400	454 B	22	863	409 B	23	813	24
25	499 B	29	1 250	452 B	23	898	413 B	22	785	25
26	475 B	27	1 110	455 B	24	943	419 B	22 S	796	26
27	445 B	26	1 000	480 B	25	1 040	432 B	22	821	27
28	419 B	25 S	905	500 B	26	1 120	446 B	22	848	28
29	410 B	24	850				461 B	22	876	29
30	395 B	24	819				476 B	22	905	30
31	380 B	23	755				488 B	22	928	31
TOTAL	13 648		44 289	11 185		20 039	14 625		32 404	TOTAL

DAY	APR DAILY DISCHARGE (m³/s)	APR MEAN CONCENTRATION (mg/L)	APR DAILY LOAD (t)	MAY DAILY DISCHARGE (m³/s)	MAY MEAN CONCENTRATION (mg/L)	MAY DAILY LOAD (t)	JUN DAILY DISCHARGE (m³/s)	JUN MEAN CONCENTRATION (mg/L)	JUN DAILY LOAD (t)	DAY
1	492 B	23	978	1 020	102 S	8 980	943	142	11 600	1
2	491 B	23	976	936	87 S	6 980	930	127 S	10 200	2
3	491 B	23	976	880	79 S	6 010	905	118	9 230	3
4	491 B	23 S	976	848	78 S	5 710	917	130 S	9 510	4
5	497 B	23	988	846	79 S	5 770	936	130	10 400	5
6	520 B	24	1 080	855	83	6 130	926	147 S	11 800	6
7	559 B	25	1 210	835	89 S	6 420	918	145	11 500	7
8	601 B	26	1 360	800	87 S	6 010	907	128	10 100	8
9	640 B	27	1 490	745	85	5 770	885	113 S	8 640	9
10	671 B	28	1 620	783	85	5 750	892	109	8 400	10
11	707 B	30	1 830	732	87 S	5 630	912	113	8 900	11
12	740 B	31	1 980	735	87 S	5 530	887	121 S	9 380	12
13	763 B	33	2 150	714	106 S	6 540	883	136	10 400	13
14	762 B	35 S	2 300	714	95 S	5 860	827	155 S	11 100	14
15	773 B	36	2 400	755	88 S	5 390	749	161	10 400	15
16	785 B	36	2 540	768	101 S	6 680	732	132 S	8 350	16
17	796 B	40	2 760	775	77	5 180	706	98	5 980	17
18	812 B	43	3 030	788	84 S	5 880	701	94 S	5 690	18
19	828 B	45	3 220	783	103	6 780	751	86 S	5 530	19
20	859 B	47	3 490	785	157 S	10 400	768	78	5 040	20
21	894 B	48	3 710	754	130	8 470	740	75	4 800	21
22	948 B	50	4 100	788	118 S	7 730	719	80	4 970	22
23	1 040 B	52	4 670	801	132	9 140	707	91 S	5 880	23
24	1 120 B	55 S	5 320	826	147 S	10 500	673	95	5 520	24
25	1 190 B	72	7 400	835	147	10 600	686	97 S	5 880	25
26	1 260 B	107	11 800	847	134 S	9 810	676	95	5 610	26
27	1 330 B	155	17 800	848	111	8 110	673	85 S	5 520	27
28	1 400	185 S	22 400	852	80 S	5 630	683	105	6 200	28
29	1 180	151 S	15 400	870	86	7 220	702	128	7 780	29
30	1 110	121 S	11 800	800	115	8 840	651	137 S	7 710	30
31				937	139 S	11 300				31
TOTAL	24 740		141 384	25 280		224 310	23 885		241 370	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

SASKATCHEWAN RIVER AT THE PAS - STATION NO 05KJ001

SUSPENDED SEDIMENT FOR 1986

DAY	JUL DAILY DISCHARGE (m^3/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	AUG DAILY DISCHARGE (m^3/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	SEP DAILY DISCHARGE (m^3/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	DAY
1	576	111	5 520	1 270	236	25 900	658	82	5 230	1
2	568	75 S	3 680	1 270	223	24 500	610	87 S	4 590	2
3	564	69	3 300	1 270	210	23 000	554	108	5 170	3
4	540	83 S	3 870	1 290	196 S	21 800	513	136 S	6 030	4
5	562 A	105	5 100	1 300	191	21 500	551	171	8 140	5
6	643 A	125	6 940	1 290	191 S	21 300	557	197	9 480	6
7	672 A	138 S	8 010	1 260	189 S	18 400	531	210 S	9 630	7
8	635 A	141	7 740	1 230	155	16 500	509	153	6 730	8
9	623	123 S	6 620	1 230	156	16 600	496	102 S	4 370	9
10	640	100	5 530	1 220	169 S	17 800	464	119	4 770	10
11	640	88 S	4 870	1 180	176 S	17 900	478	141 S	5 820	11
12	656	104	5 890	1 130	151	14 700	526	167	7 140	12
13	632	131	7 150	1 100	126 S	12 000	537	184	7 610	13
14	620	146 S	7 820	1 110	126	12 100	513	180	7 090	14
15	573	140	6 930	1 080	131 S	12 300	497	144 S	6 180	15
16	586	126	6 160	1 030	127	11 300	500	127	5 480	16
17	606	108	5 650	992	122 S	10 500	511	110	4 860	17
18	642	93 S	5 160	936	117	9 460	512	83 S	4 110	18
19	615	87	5 150	893	112	8 640	500	84	3 630	19
20	648	108	8 060	842	107 S	7 780	496	78	3 210	20
21	726	151 S	9 470	830	105	7 530	485	67	2 870	21
22	895	230	17 800	789	103	7 020	484	69 S	2 890	22
23	1 030	296	26 300	769	101	6 710	469	104	4 210	23
24	1 080	324 S	30 200	759	101 S	6 620	484	143	5 880	24
25	1 090 A	323	30 400	700	105	6 350	576	182	9 060	25
26	1 210 A	313 S	32 700	668	118	6 810	726	221	13 900	26
27	1 250 A	287	32 100	642	138	7 650	835	262 S	14 400	27
28	1 250 A	276 S	29 800	649	147 S	8 240	859	297	14 300	28
29	1 280	265 S	29 300	647	137	7 880	848	317 S	15 000	29
30	1 280	258 S	28 500	658	122	6 940	831	274	12 800	30
31	1 280	249 S	27 500	672	105	6 100				31
TOTAL	24 583		411 220	30 716		401 610	16 020		214 490	TOTAL

DAY	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	NOV DAILY DISCHARGE (m^3/s)	NOV MEAN CONCENTRATION (mg/L)	NOV DAILY LOAD (t)	DEC DAILY DISCHARGE (m^3/s)	DEC MEAN CONCENTRATION (mg/L)	DEC DAILY LOAD (t)	DAY
1	840	218	10 200	685	130	7 680	319 B	20	551	1
2	555	172 S	8 250	645	140 S	7 800	324 B	20	560	2
3	579	152	7 600	657 B	136	7 720	335 B	19	550	3
4	584	140	6 820	669 B	122	7 050	345 B	20	596	4
5	557	133	6 400	662 B	105	6 010	355 B	20	613	5
6	550	128 S	6 080	647 B	85	4 750	368 B	21	668	6
7	544	132	6 200	632 B	66 S	3 600	384 B	22	730	7
8	544	157	7 380	617 B	58	3 090	401 B	22	762	8
9	588	205 S	10 100	602 B	53	2 760	402 B	22	764	9
10	592	214	10 900	588 B	48	2 440	391 B	22 S	743	10
11	627	213	11 500	566 B	44	2 150	389 B	22	739	11
12	655	208	11 800	543 B	38	1 780	412 B	22	783	12
13	628	199	10 800	520 B	33	1 480	430 B	22	817	13
14	639	190	10 500	495 B	28 S	1 210	441 B	22	838	14
15	649	176 S	9 810	479 B	26	1 080	462 B	22	859	15
16	655	159	9 000	457 B	25	987	484 B	22	882	16
17	694	144	8 630	434 B	25	937	472 B	22	897	17
18	718	128	7 940	414 B	24	858	495 B	22	941	18
19	719	113	7 020	394 B	23	783	525 B	22	998	19
20	719	98 S	6 090	375 B	23	745	547 B	21	992	20
21	717	90	5 580	353 B	22	671	545 B	22	1 040	21
22	718	86	5 340	335 B	22	637	525 B	22 S	998	22
23	722	86 S	5 360	338 B	21	613	503 B	22	956	23
24	723	86	5 370	342 B	21	621	476 B	23	946	24
25	731	88	5 560	350 B	20 S	605	456 B	23	906	25
26	738	90	5 740	347 B	20	600	426 B	23	851	26
27	737	94	5 990	342 B	20	591	401 B	23	797	27
28	736	96 S	6 100	339 B	20	588	398 B	22	757	28
29	742	101	6 470	334 B	21	606	399 B	23	793	29
30	730	110	6 940	325 B	20	562	387 B	23 S	785	30
31	711	119	7 310				385 B	23	785	31
TOTAL	20 283		238 780	14 490		71 012	13 174		24 901	TOTAL

A - MANUAL GAUGE B - ICE CONDITIONS S - SAMPLE(S) COLLECTED THIS DAY

SASKATCHEWAN RIVER AT THE PAS - STATION NO. 05KJ001

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)		SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 13	15 35	0.5	500	W	177		DH59	47	311														
JAN 28	11 15	0.5	419	W	177		DH59	25	327														
FEB 18	14 45	0.5	355	W	177		DH59	17	320														
MAR 03	13 25	0.5	513	W	177		DH59	30	314														
MAR 17	11 00	0.5	463	W	177		DH59	37	307														
MAR 26	09 45	0.5	419	W	177		DH59	32	301														
APR 04	09 25	0.5	481	W	177		DH59	33	301														
APR 14	09 10	0.5	782	W	177		DH59	35	257														
APR 24	10 25	1.0	1120	W	MID	X	DH59	54	274														
APR 28	07 20	1.0	1400	H	MID	X	DH59	195															
APR 29	08 15	2.0	1180	H	177		D49	158															
APR 30	14 41	2.0	1110	H	177		D49	117															
MAY 01	07 05	1.5	170		67.0	W	D49	115	230														
MAY 01	07 15	1.5	191		119	M	D49	115	231														
MAY 01	07 20	1.5	209		152	M	D49	106	235														
MAY 01	07 25	1.5	1010		177		D49	106	238														
MAY 01	07 30	1.5	219		184	M	D49	103	238														
MAY 01	07 35	1.5	223		223	M	D49	95	239														
MAY 02	06 55	2.0	825	H	177		D49	91															
MAY 03	09 33	2.0	880	H	177		D49	79															
MAY 04	09 36	3.0	848	H	177		D49	79															
MAY 05	05 58	3.5	846	H	177		D49	78															
MAY 07	10 18	3.5	835	H	177		D49	90															
MAY 08	06 45	4.5	800	H	177		D49	88	220														
MAY 11	09 48	6.5	722	H	177		D49	88															
MAY 12	06 15	6.5	735	H	177		D49	83															
MAY 13	12 05	6.0	714	H	177		D49	114															
MAY 14	06 50	5.0	714	H	177		D49	98															
MAY 15	06 55	6.0	755	H	177		D49	95	214														
MAY 16	09 45	8.0	768	H	177		D49	103															
MAY 18	06 25	6.5	768	H	177		D49	50															
MAY 20	06 42	9.0	785	H	177		D49	169															
MAY 22	07 05	9.0	758	H	177		D49	115	214														
MAY 24	08 40	15.0	826	H	177		D49	146															
MAY 26	06 33	16.0	847	H	177		D49	138															
MAY 28	08 40	17.5	852	H	177		D49	90	232														
MAY 31	10 55	19.0	937	H	177		D49	139															
JUN 02	13 40	18.0	930	H	177		D49	125															
JUN 04	08 40	17.5	917	H	177		D49	119															
JUN 06	06 15	15.5	926	H	177		D49	145	227														
JUN 09	06 15	16.5	885	H	177		D49	116															
JUN 12	12 45	17.5	897	H	177		D49	121															
JUN 14	12 00	15.0	827	H	177		D49	154	260														
JUN 16	07 05	15.0	732	H	177		D49	141															
JUN 18	07 15	16.5	701	H	177		D49	95															
JUN 19	07 15	18.0	751	H	177		D49	88															
JUN 23	08 55	19.0	123		73.0	W	D49	84	305														
JUN 23	08 05	19.0	138		123	M	D49	93	256														
JUN 23	09 10	19.0	149		155	M	D49	98	260														
JUN 23	09 15	19.0	730		177		D49	92	319														
JUN 23	09 20	19.0	157		163	M	D49	90	292														
JUN 23	09 25	19.0	163		219	M	D49	82															
JUN 25	07 08	18.0	686	H	177		D49	97															
JUN 27	07 06	19.5	673	H	177		D49	94															
JUN 30	07 20	19.0	851	H	177		D49	141	245														
JUL 02	07 32	20.5	588	H	177		D49	77															
JUL 04	10 38	21.0	540	H	177		D49	82															
JUL 07	07 08	18.5	672	V	177		D49	138															
JUL 08	07 10	18.5	623	H	177		D49	130															
JUL 11	07 05	21.0	640	H	177		D49	85															
JUL 14	06 40	19.5	620	H	177		D49	146	238														
JUL 18	10 55	21.5	642	H	177		D49	94															
JUL 21	07 00	20.0	726	H	177		D49	132															
JUL 24	07 20	20.0	1080	H	177		D49	323	258	17	22	38	58	80	96	99	100			4	74	22
JUL 26	11 55	21.0	1210	V	177		D49	315	268	14	17	32	45	65	85	94	98	100		15	68	17
JUL 28	15 55	21.0	1250	V	177		D49	271	263														
JUL 29	09 20	21.0	241		86.0	W	D49	322	257														
JUL 29	09 30	21.0	344		116	M	D49	289	280														
JUL 29	09 35	21.0	352		152	M	D49	271	286														
JUL 29	09 40	21.0	1240	H	177		D49	267	267														
JUL 29	09 45	21.0	288		184	M	D49	237	286														
JUL 29	09 50	21.0	271		224	M	D49	215	270														
JUL 30	07 05	20.0	1280	H	177		D49	280	259	17	20	34	49	72	91	99	100			9	71	20
JUL 31	06 55	20.0	1240	H	177		D49	252															
AUG 04	18 40	20.0	1290	H	177		D49	192															
AUG 06	07 17	20.5	1290	H	177		D49	184	239														
AUG 07	08 05	22.0	1260	H	177		D49	172															
AUG 10	09 55	21.0	1220	H	177		D49	167															
AUG 11	06 10	20.0	1180	H	177		D49	180															
AUG 13	13 15	20.5	1100	H	177		D49	123	223														
AUG 15	11 20	21.0	1080	H	177		D49	133															
AUG 17	12 40	19.5	982	H	177		D49	122															
AUG 20	07 05	18.0	842	H	177		D49	108	212														
AUG 24	12 35	17.0	759	H	177		D49	100															
AUG 28	09 20	15.5	849	H	177		D49	148	220														
SEP 02	08 50	17.5	810	H	177		D49	84															
SEP 04	07 45	15.5	813	H	177		D49	131	215														
SEP 07	10 30	13.5	831	H	177		D49	218															
SEP 09	08 15	12.5	486	H	177		D49	98															
SEP 11	09 40	11.5	478	H	177		D49	139	217														
SEP 15	08 40	10.0	487	H	177		D49	147															
SEP 18	08 10	10.0	512	H	177		D49	95	206														
SEP 22	06 40	10.5	484	H	177		D49	62															
SEP 27	08 25	9.5	835	H	177		D49	255															
SEP 29	10 00	9.5	102		76.0	M	D49	326	213	44	64	83	94	97	98	99	100			2	34	64
SEP 29	10 05	9.5	103		126	M	D49	342	214	42	58	86	95	98	98	100				2	30	68
SEP 29	10 13	9.5	118		185	M	D49	338	215	41	55	85	96	97	99	99	100			1	34	65
SEP 29	10 17	9.5	548	H	177		D49	324	223	44	64	87	93	97	97	99	100			3	33	64
SEP 29	10 22	9.5	120		183	M	D49	332	220	45	65	87	94	98	98	100				2	32	66
SEP 29	10 27	9.5	124		218	M	D49	291	242	42	64	84	95	97	99	100				1	35	64
OCT 02	12 05	8.5	565	H	177		D49	170															
OCT 06	14 25	8.0	550	H	177		D49	127	297														

NOTE SINGLE VERTICAL LOCATED AT 177 METRES FOR 1986

DISCHARGE SYMBOL(S) H - DAILY MEAN V - DAILY MEAN, MANUAL GAUGE W - DAILY MEAN, ICE CONDITIONS
VERTICAL SYMBOL(S) X - NOT AT REGULAR SINGLE SAMPLE VERTICAL M - A SEDIMENT MEASUREMENT VERTICAL

CONTINUED

SASKATCHEWAN RIVER AT THE PAS - STATION NO. 05KJ001 (CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)		SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
OCT 09	15 00	5.0	586	H	177		D49	211															
OCT 15	09 30	9.5	645	H	177		D49	179	256														
OCT 20	09 40	7.5	719	H	177		D49	88															
OCT 23	09 45	5.0	722	H	177		D49	86	258														
OCT 28	08 30	5.5	736	H	177		D49	95															
NOV 02	14 30	1.0	645	H	MID	X	DH59	142	267														
NOV 07	14 00	1.0	632	W	MID	X	DH59	83	254														
NOV 14	14 00	1.0	488	W	MID	X	DH59	27	283														
NOV 25	13 40	0.5	350	W	177		DH59	20	284														
DEC 10	13 20	0.5	391	W	177		DH59	22	278														
DEC 22	10 20	0.5	525	W	177		DH59	22	284														
DEC 30	11 15	0.5	397	W	177		DH59	23	286														

NOTE SINGLE VERTICAL LOCATED AT 177 METRES FOR 1986

DISCHARGE SYMBOL(S) H - DAILY MEAN W - DAILY MEAN, ICE CONDITIONS
VERTICAL SYMBOL(S) X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY JAN-DEC MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1954	-----PCCC---	MANUAL	735	SEP 08	55	AUG 19	118 000	SEP 08	3 740 000	---	---	---
1955	----CCCC----	MANUAL	1 130	MAY 05 *	50	JUL 25	183 000	MAY 01 *	3 930 000	---	---	---
1956	----PCCCP---	MANUAL	445	JUN 14	32	JUN 28	100 000	MAY 17	2 170 000	---	---	---
1957	----CCCC----	MANUAL	585	MAY 04	43	AUG 01	128 000	MAY 01	2 860 000	---	---	---
1958	---PCCCCCP--	MANUAL	715	APR 23	50	AUG 30	95 000	APR 30	4 400 000	---	---	---
1959	-------CP----	MANUAL	680	JUL 09	115	JUL 30	91 000	JUL 10	1 420 000	---	---	---
1960	----CCCC----	MANUAL	505	JUN 03	55	AUG 12	92 700	MAY 01	2 580 000	---	---	---
1962	----PCCCCCCC	MANUAL	530	MAY 05	18	DEC 07	65 900	MAY 05	2 050 000	---	---	---
1963	CCCCCCCCCCCC	MANUAL	380	APR 26	10	MAR 26	36 400	APR 26	2 340 000	6 400	6 400	---
1964	CCCCCCCCCCCC	MANUAL	590	JUN 30	11	APR 09	76 400	JUN 30	3 280 000	8 960	7 680	16.7
1965	CCCCCCCCCCCC	MANUAL	680	MAY 08	12	MAR 16	98 400	JUL 11	5 690 000 *	18 300	11 200	32.3
1966	CCCCCCCCCCCC	MANUAL	260	MAY 04	10	FEB 24	34 100	MAY 04	2 060 000	5 640	9 830	29.6
1967	CCCCCCCCCCCC	MANUAL	280	JUN 10	10	APR 11	27 100	JUN 10	1 600 000	4 370	8 730	28.7
1968	CCCCCCCCCCCC	MANUAL	168	JUL 01	11	DEC 06	10 700	APR 30	857 000	2 340	7 670	30.1
1969	CCCCCCCCCCCC	MANUAL	511	JUL 08	14	NOV 25	61 000	APR 23	2 850 000	7 810	7 680	25.4
1970	CCCCCCCCCCCC	MANUAL	323	MAY 12	9	MAR 17	55 300	MAY 10	2 130 000	5 850	7 480	22.8
1971	CCCCCCCCCCCC	MANUAL	382	APR 27	12	MAR 17	47 200	APR 27	2 020 000	5 550	7 250	20.9
1972	CCCCCCCCCCCC	MANUAL	586	MAY 03	8	NOV 21 *	95 400	MAY 03	2 740 000	7 490	7 270	18.7
1973	CCCCCCCCCCCC	DUAL	282	MAY 23	12	MAR 31	25 000	MAY 22	1 880 000	5 140	7 080	17.6
1974	CCCCCCCCCCCC	DUAL	853	APR 29	14	DEC 23	173 000	MAY 02	6 230 000	17 100	7 910	17.8
1975	CCCCCCCCCCCC	MANUAL	205	MAY 21	14	APR 06	27 100	APR 30	1 700 000	4 670	7 660	17.2
1976	CCCCCCCCCCCC	MANUAL	143	AUG 30	15	FEB 25	9 590	APR 16	989 000	2 700	7 310	17.4
1977	CCCCCCCCCCCC	MANUAL	168	MAY 07	11	APR 13	11 900	APR 22	871 000	2 390	6 980	17.5
1978	CCCCCCCCCCCC	DUAL	369	MAY 04	10	FEB 22	43 700	MAY 04	1 700 000	4 660	6 840	16.9
1979	CCCCCCCCCCCC	DUAL	417	MAY 08	8	APR 17	72 100	MAY 08	1 840 000	4 490	6 700	16.4
1980	CCCCCCCCCCCC	MANUAL	235	APR 22	10	APR 07	21 300	APR 22	1 390 000	3 800	6 540	16.0
1981	CCCCCCCCCCCC	MANUAL	327	OCT 01	10	DEC 20	21 500	AUG 12	1 750 000	4 800	6 450	15.4
1982	CCCCCCCCCCCC	MANUAL	363	OCT 22	9	APR 18	25 000	APR 30	1 390 000	3 810	6 310	15.1
1983	CCCCCCCCCCCC	MANUAL	221	MAY 12	6	DEC 08	27 400	MAY 01	1 330 000	3 640	6 190	14.8
1984	CCCCCCCCCCCC	MANUAL	294	APR 17	9	MAR 23	28 200	APR 17	1 230 000	3 360	6 060	14.6
1985	CCCCCCCCCCCC	MANUAL	407	APR 25	34	JAN 08	52 000	APR 23	2 180 000	5 910	6 050	13.9
1986	CCCCCCCCCCCC	MANUAL	342	SEP 29	17	FEB 18	32 700	JUL 26	2 070 000	5 660	6 040	13.4

DUAL - MANUAL AND AUTOMATIC SAMPLING MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SOURIS RIVER AT WAWANESA - STATION NO. 05NG001

SUSPENDED SEDIMENT FOR 1986

LOCATION LAT 49 38 05 N LONG 99 40 55 W
DRAINAGE AREA 80 400 km²
TYPE OF FLOW REGULATED
TYPE OF GAUGE RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 13 300 TONNES FOR THE PERIOD JAN 01 TO DEC 31

REMARKS

DAY	JAN DAILY DISCHARGE (m³/s)	JAN MEAN CONCENTRATION (mg/L)	JAN DAILY LOAD (t)	FEB DAILY DISCHARGE (m³/s)	FEB MEAN CONCENTRATION (mg/L)	FEB DAILY LOAD (t)	MAR DAILY DISCHARGE (m³/s)	MAR MEAN CONCENTRATION (mg/L)	MAR DAILY LOAD (t)	DAY
1	1.73 B	80	12.0	1.56 B	163	22.0	1.45 B	125	15.7	1
2	1.78 B	82	12.7	1.58 B	163	22.3	1.44 B	117	14.6	2
3	1.46 B	83	10.5	1.68 B	163	23.8	1.35 B	108	12.8	3
4	1.47 B	85	10.8	1.64 B	185	23.4	1.24 B	88	10.6	4
5	1.87 B	90	13.0	1.50 B	188	21.5	1.20 B	84	9.75	5
6	1.63 B	108	14.9	1.52 B	188	21.8	1.22 B	88	9.38	6
7	1.72 B	130	19.3	1.55 B	188	22.2	1.31 B	84	9.51	7
8	1.72 B	144	21.4	1.51 B	185	21.5	1.35 B	80	9.33	8
9	1.84 B	143	22.7	1.59 B	188	22.8	1.43 B	77	9.51	9
10	1.88 B	141	22.9	1.50 B	188	21.8	1.48 B	76	9.78	10
11	2.06 B	142	25.3	1.47 B	188	21.3	1.54 B	74 S	9.85	11
12	2.01 B	141	24.5	1.56 B	188	22.6	1.35 B	73	8.51	12
13	1.83 B	141 S	22.3	1.49 B	189	21.8	6.24 B	78	42.1	13
14	1.80 B	141	21.9	1.51 B	189	22.0	15.6 B	82	111	14
15	1.95 B	141	23.8	1.52 B	189	22.2	14.4 B	64	79.6	15
16	1.87 B	141	22.8	1.52 B	170	22.3	14.4 B	48	61.0	16
17	1.72 B	141	21.0	1.81 B	171	26.7	13.3 B	40	46.0	17
18	1.58 B	141	19.4	1.56 B	171 S	23.0	13.2 B	32 S	36.5	18
19	1.46 B	141	17.8	1.54 B	170	22.6	13.3 B	25	28.7	19
20	1.42 B	141	17.3	1.45 B	168	21.0	12.7 B	20 S	21.9	20
21	1.44 B	141	17.5	1.47 B	168	21.1	13.1 B	24	27.2	21
22	1.45 B	142	17.8	1.58 B	163	22.3	24.3 B	62	130	22
23	1.47 B	146	18.5	1.55 B	158	21.2	46.4 B	103	413	23
24	1.58 B	150	20.5	1.53 B	153	20.2	38.3 B	95 S	318	24
25	1.53 B	154	20.4	1.48 B	147	18.8	28.3 B	77	188	25
26	1.44 B	158	19.7	1.52 B	141	18.5	22.8 B	64	126	26
27	1.39 B	158	19.0	1.48 B	136	17.5	21.9 B	65 S	125	27
28	1.52 B	158	20.7	1.45 B	131	16.4	28.1 B	91 S	221	28
29	1.60 B	159	22.0				27.6 B	60 S	143	29
30	1.78 B	160	24.7				23.3 B	54 S	109	30
31	1.68 B	161	23.4				21.2 B	51 S	93.4	31
TOTAL	51.51		600.5	43.14		604.6	414.81		2 449.52	TOTAL

DAY	APR DAILY DISCHARGE (m³/s)	APR MEAN CONCENTRATION (mg/L)	APR DAILY LOAD (t)	MAY DAILY DISCHARGE (m³/s)	MAY MEAN CONCENTRATION (mg/L)	MAY DAILY LOAD (t)	JUN DAILY DISCHARGE (m³/s)	JUN MEAN CONCENTRATION (mg/L)	JUN DAILY LOAD (t)	DAY
1	20.8	44 S	79.1	21.8	50	94.2	20.5	29 S	51.6	1
2	19.8	46 S	78.7	21.6	39 S	72.8	19.6	26	44.0	2
3	18.1	35 S	48.7	21.4	38	70.3	18.8	25 S	40.6	3
4	15.2	35 S	46.0	21.1	38	69.3	17.1	25	36.9	4
5	17.5	39 S	59.0	24.2	58	121	15.7	23	31.2	5
6	18.2	41 S	64.5	48.9	233 S	984	15.1	21	27.4	6
7	17.7	38 S	58.1	60.8	383 S	1 910	14.3	18 S	22.2	7
8	17.1	36 S	53.2	44.3	156 S	597	11.8	18	18.4	8
9	16.0	32 S	44.2	37.4	91 S	294	9.52	17	14.0	9
10	14.9	28	36.0	36.8	76 S	237	7.82	18	12.2	10
11	14.1	24 S	29.2	35.0	71 S	215	6.74	22 S	12.8	11
12	14.1	23 S	28.0	34.1	71 S	209	6.28	26	14.1	12
13	13.6	21 S	24.7	32.4	62 S	174	5.83	31 S	15.6	13
14	13.3	19 S	21.8	31.0	52 S	139	5.02	39	16.9	14
15	12.3	18 S	19.1	30.2	49 S	128	5.98	55 S	28.4	15
16	11.5	20 S	19.9	30.2	48 S	125	5.77	45	22.4	16
17	10.6	22 S	20.1	30.7	47 S	125	5.73	30	14.9	17
18	12.0	31 S	32.1	31.5	45 S	122	5.51	22 S	10.5	18
19	27.1	51 S	119	32.1	45 S	125	5.33	21	9.67	19
20	26.2	41 S	92.8	32.1	41 S	114	5.79	24	12.0	20
21	23.3	38 S	76.5	31.5	38 S	103	4.51	22 S	8.76	21
22	21.7	36 S	67.5	31.0	37 S	99.1	3.35	20	5.78	22
23	20.8	42 S	75.5	29.6	29 S	74.2	4.04	21	7.33	23
24	20.7	38 S	64.4	27.9	28 S	67.5	4.07	20	7.03	24
25	21.0	40 S	72.8	26.4	28 S	63.9	3.86	20 S	6.64	25
26	20.9	40 S	72.3	24.8	26 S	55.3	4.01	21	7.28	26
27	20.8	36	64.7	23.3	26 S	52.3	3.86	20 S	6.67	27
28	21.5	35 S	65.0	22.4	28 S	54.2	3.63	19	5.96	28
29	21.8	50 S	94.2	21.8	28 S	52.7	3.43	18	5.33	29
30	22.2	62	119	21.2	28 S	51.3	3.17	17 S	4.66	30
31				20.6	28 S	49.8				31
TOTAL	542.8		1 745.8	937.7		5 848.8	246.45		521.42	TOTAL

B - ICE CONDITIONS S - SAMPLE(S) COLLECTED THIS DAY

SOURIS RIVER AT WAWANESA - STATION NO. 05NG001

SUSPENDED SEDIMENT FOR 1986

DAY	JUL DAILY DISCHARGE (m^3/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	AUG DAILY DISCHARGE (m^3/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	SEP DAILY DISCHARGE (m^3/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	DAY
1	2.88	17	4.24	4.24	17	6.23	0.828	18 S	1.36	1
2	2.83	16	3.84	3.68	16 S	5.08	0.803	17 S	1.18	2
3	2.40	16	3.32	3.25	15	4.21	0.768	16	1.06	3
4	2.36	15	3.06	3.00	14	3.63	0.725	16	1.13	4
5	2.24	15	2.90	3.02	14	3.65	0.694	16	1.08	5
6	2.05	15 S	2.66	3.67	14 S	4.44	0.675	19	1.11	6
7	2.05	15	2.66	4.45	17	6.59	0.641	15 S	1.05	7
8	1.89	14	2.41	4.43	20	7.66	0.621	19	1.02	8
9	2.02	14	2.44	4.03	20	6.96	0.613	18	0.95	9
10	2.25	15	2.92	3.56	20 S	6.15	0.619	18 S	0.96	10
11	2.11	15	2.73	3.31	20	5.72	0.629	18	0.98	11
12	1.86	14	2.01	3.43	20	5.93	0.614	18	0.95	12
13	1.51	14 S	1.83	3.59	20	6.20	0.622	18	0.97	13
14	1.89	14	2.29	3.54	20 S	6.12	0.641	19 S	1.05	14
15	1.85	13	2.08	3.28	20	5.67	0.658	19	1.08	15
16	1.79	12	1.86	2.83	20	4.89	0.724	17	1.06	16
17	2.03	12	2.10	2.45	20	4.23	0.859	15 S	1.11	17
18	2.05	12 S	2.13	2.10	21 S	3.81	0.897	15	1.16	18
19	2.20	12	2.28	1.87	21	3.39	0.886	15	1.15	19
20	2.65	11 S	2.52	1.67	21	3.03	0.922	17	1.35	20
21	2.22	11	2.11	1.50	20	2.59	0.987	18 S	1.50	21
22	2.39	11	2.27	1.34	20 S	2.32	0.850	18	1.32	22
23	2.47	11	2.35	1.24	19	2.04	0.902	17	1.32	23
24	2.42	11	2.30	1.15	18 S	1.79	0.959	17 S	1.41	24
25	2.78	12	2.88	1.09	18	1.70	1.12	18	1.74	25
26	3.35	14	4.05	1.08	19	1.77	1.23	17	1.81	26
27	4.03	16	5.57	1.07	20	1.85	1.24	15	1.61	27
28	4.95	17	7.27	0.983	20 S	1.72	1.17	15 S	1.52	28
29	5.13	17	7.53	0.931	20	1.61	1.27	15	1.65	29
30	4.83	17	7.08	0.920	20	1.59	3.78	18	5.89	30
31	4.47	17 S	6.57	0.857	19	1.41				31
TOTAL	81.66		102.07	77.591		123.96	27.837		41.53	TOTAL

DAY	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	NOV DAILY DISCHARGE (m^3/s)	NOV MEAN CONCENTRATION (mg/L)	NOV DAILY LOAD (t)	DEC DAILY DISCHARGE (m^3/s)	DEC MEAN CONCENTRATION (mg/L)	DEC DAILY LOAD (t)	DAY
1	4.41	18	6.86	6.43	9	5.00	0.935 B	22	1.78	1
2	4.70	18	7.31	5.74	9	4.46	0.962 B	23	1.91	2
3	4.81	18	7.48	6.68	9 S	5.19	1.03 B	26	2.31	3
4	4.85	18	7.54	6.44	9	5.01	1.04 B	28	2.52	4
5	4.99	18	7.76	6.32	9	4.91	1.04 B	31	2.79	5
6	5.01	19	9.87	5.78	9	4.49	0.984 B	34	2.89	6
7	5.76	19 S	9.46	4.74	9	3.68	0.937 B	37	3.00	7
8	5.40	17	7.93	3.14	9	2.44	0.924 B	39 S	3.11	8
9	5.37	14	6.50	3.26 B	9	2.53	1.01 B	44	3.84	9
10	5.10	11 S	4.85	2.43 B	9	1.89	1.07 B	51	4.71	10
11	4.80	11	4.56	2.54 B	9	1.98	0.819 B	52	3.68	11
12	4.31	11	4.10	3.03 B	9	2.36	0.792 B	52	3.56	12
13	4.06	11	3.85	2.54 B	9	1.98	0.844 B	52	3.79	13
14	3.98	12 S	4.13	2.01 B	9	1.56	0.786 B	52	3.54	14
15	3.80	12	3.94	1.93 B	9	1.50	0.886 B	54	4.13	15
16	4.07	12	4.22	2.86 B	9	2.22	1.01 B	57	4.97	16
17	4.87	12	5.05	1.85 B	9	1.44	1.07 B	61	5.64	17
18	5.37	11	5.10	1.44 B	9	1.12	1.05 B	64	5.86	18
19	5.69	11 S	5.41	1.30 B	11	1.24	1.11 B	67	6.43	19
20	5.99	11	5.69	1.19 B	12	1.23	1.26 B	69	7.51	20
21	6.20	11	5.88	1.32 B	14	1.60	1.38 B	72	8.58	21
22	6.23	11	5.92	1.82 B	16	2.24	1.33 B	75	8.62	22
23	6.22	11	5.91	1.85 B	18	2.88	1.36 B	78	9.10	23
24	6.25	11	5.94	1.80 B	19	2.83	1.30 B	80	8.99	24
25	6.25	11	5.94	1.50 B	21	2.72	1.13 B	80	7.81	25
26	6.26	11	5.95	1.28 B	21	2.32	1.09 B	80	7.53	26
27	6.29	11	5.98	1.23 B	21	2.23	1.03 B	80	7.12	27
28	6.31	11	6.00	1.17 B	21	2.12	1.04 B	80	7.19	28
29	6.42	11	6.10	1.08 B	21	1.98	0.988 B	80	6.83	29
30	6.31	11	6.00	1.02 B	21	1.85	1.03 B	80	7.12	30
31	6.08	9	4.73				1.06 B	80	7.33	31
TOTAL	167.15		185.97	85.32		78.81	32.299		184.19	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

SOURIS RIVER AT WAWANESA - STATION NO. OSN0001

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)		SINGLE VERTICAL SAMPLING (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 13	12:15	0.5	1.68	B	MID	X	DH48	141	817														
FEB 18	10:30	0.5	1.56	B	10RB	X	DH48	171	895														
MAR 11	11:20	0.5	1.58	B	MID	X	DH48	74	984														
MAR 18	14:05	0.5	16.5	B	38.0		DH59	32															
MAR 20	09:45	0.5	9.83	B	10RB	X	DH48	20	452														
MAR 24	13:20	3.0	37.6	B	38.0		DH59	90															
MAR 24	13:30	3.0	5.81	B	28.0	M	DH59	89	246														
MAR 24	13:35	3.0	7.01	B	24.0	M	DH59	97	244														
MAR 24	13:40	3.0	7.77	B	20.0	M	DH59	96	248														
MAR 24	13:45	3.0	8.11	B	16.0	M	DH59	99	254														
MAR 24	13:50	4.0	9.16	B	12.0	M	DH59	92	253														
MAR 27	14:45	3.0	22.4	B	38.0		DH59	61															
MAR 27	16:00	4.0	22.5	B	38.0		DH59	75															
MAR 28	13:10	4.0	29.5		38.0		DH59	97	299														
MAR 29	14:00	3.0	30.4	B	38.0		DH59	51															
MAR 30	15:30	4.0	22.0	B	38.0		DH59	53															
MAR 31	15:40	4.5	21.3	B	38.0		DH59	53															
MAR 31	17:00	1.5	21.2	B	38.0		DH59	54															
APR 01	13:30	6.0	20.7		38.0		DH59	41															
APR 02	13:45	5.0	21.2		38.0		DH59	49															
APR 03	14:10	6.5	15.7		38.0		DH59	33	337														
APR 04	12:00	6.0	15.0		38.0		DH59	35															
APR 04	18:00	7.5	15.3		38.0		DH59	35															
APR 05	12:10	6.5	17.6		38.0		DH59	38															
APR 06	13:30	11.0	18.2		38.0		DH59	41															
APR 06	18:00	10.5	18.1		38.0		DH59	40															
APR 07	12:30	9.0	17.6		38.0		DH59	39															
APR 07	18:20	10.0	17.5		38.0		DH59	38															
APR 08	15:00	9.0	3.89		13.0	Z	DH48	37	451														
APR 08	15:05	9.0	3.42		21.0	Z	DH48	36	441														
APR 08	15:10	9.0	3.65		29.0	Z	DH48	35	450														
APR 08	15:15	9.0	3.30		35.0	Z	DH48	36	453														
APR 08	15:20	9.0	2.82		41.0	Z	DH48	36	467														
APR 08	15:40	9.0	16.9		38.0		DH59	36	450														
APR 08	18:40	12.0	16.8		38.0		DH59	34															
APR 09	18:20	14.0	15.7		38.0		DH59	31															
APR 11	13:00	9.0	14.0		38.0		DH59	24															
APR 12	18:10	4.5	14.0		38.0		DH59	23															
APR 13	18:15	3.0	13.3		38.0		DIP	20															
APR 15	18:40	5.5	11.9		38.0		DH59	18	436														
APR 16	17:30	7.0	11.4		38.0		DH59	22															
APR 17	18:20	8.5	10.4		38.0		DH59	22															
APR 18	18:45	8.0	12.6		38.0		DH59	35															
APR 20	18:10	8.0	24.9		38.0		DH59	38															
APR 21	18:30	10.0	22.8		38.0		DH59	39															
APR 22	18:30	15.0	21.2		38.0		DH59	35															
APR 23	14:15		20.7		38.0		DH59	44															
APR 24	14:00	15.0	20.7		38.0		DH59	35															
APR 25	18:10	12.0	21.1		38.0		DIP	42															
APR 26	19:00		20.9		38.0		DIP	38															
APR 28	15:15	9.0	21.5		38.0		DH59	34	444														
APR 29	17:00	13.0	21.8		38.0		DH59	58															
MAY 02	14:30	15.0	21.8		38.0		DH59	38															
MAY 06	20:45	9.5	56.3		38.0		DH59	335	C														
MAY 07	12:15	10.0	62.9		38.0		DH59	402	C	460													
MAY 07	19:00	10.0	56.5		38.0		DH59	280															
MAY 08	12:30	10.0	43.4		38.0		DH59	133															
MAY 08	19:10	10.5	40.7		38.0		DH59	133															
MAY 09	17:30	9.0	36.9		38.0		DH59	82															
MAY 10	16:45	14.0	36.6		38.0		DH59	75															
MAY 11	18:15	17.0	34.7		38.0		DH59	70	509														
MAY 12	18:30	15.0	33.8		38.0		DH59	72															
MAY 13	17:00	17.5	32.0		38.0		DH59	57															
MAY 14	19:30	14.0	30.7		38.0		DH59	51															
MAY 15	14:35	13.5	29.9		38.0		DH59	47															
MAY 15	18:30	14.5	29.9		38.0		DH59	50															
MAY 16	17:00	12.0	30.2		38.0		DH59	47															
MAY 17	17:30	14.5	31.0		38.0		DH59	47															
MAY 18	17:10	17.5	31.5		38.0		DH59	46	533														
MAY 19	16:00	16.0	32.3		38.0		DH59	45															
MAY 20	17:20	17.0	32.0		38.0		DH59	39															
MAY 21	17:00	17.0	31.5		38.0		DH59	38															
MAY 22	17:30	18.5	30.9		38.0		DH59	36															
MAY 23	14:00		29.7		38.0		DH59	28															
MAY 24	13:30		27.8		38.0		DH59	30															
MAY 25	13:10	20.0	26.2		38.0		DH59	29	586														
MAY 26	21:00	22.0	24.0		38.0		DH59	26															
MAY 27	12:30	22.0	23.2		38.0		DH59	25															
MAY 27	20:10	24.0	22.9		38.0		DH59	25															
MAY 28	16:30	25.0	22.3		38.0		DH59	18															
MAY 29	16:00	24.0	21.7		38.0		DH59	28															
MAY 30	14:00	26.0	21.1		38.0		DH59	28															
MAY 31	15:20	25.0	20.4		38.0		DH59	29															
JUN 01	12:10	19.0	20.7		38.0		DH59	4		650													
JUN 03	20:30	22.0	18.3		38.0		DH59	26															
JUN 07	18:40	21.0	13.8		38.0		DH59	18		705													
JUN 11	17:10	20.0	8.59		38.0		DH59	23															
JUN 13	18:00	18.0	5.52		38.0		DH59	32															
JUN 15	19:10	15.5	6.11		38.0		DH59	56		692													
JUN 18	18:50	23.0	5.42		38.0		DH59	20															
JUN 21	18:00	24.0	4.31		38.0		DH59	22		714													
JUN 25	10:10	23.0	3.87		38.0		DH59	20															
JUN 27	18:00	21.0	3.88		38.0		DH59	20															
JUN 30	18:45	22.0	3.08		38.0		DH59	17		746													
JUL 06	18:30	20.0	2.04		38.0		DH59	15		747													
JUL 13	18:45	24.0	1.54		38.0		DH59	14		732													
JUL 18	18:00	22.0	2.03		38.0		DH59	12															
JUL 20	18:35	23.5	2.49		38.0		DH59	11		746													
JUL 31	10:30	21.0	4.46		38.0		DH59	17		683													
AUG 02	12:30	20.0	3.65		38.0		DH59	16															
AUG 06	18:40	23.0	4.05		38.0		DH59	14		681													
AUG 10	15:00	19.0	3.50		38.0		DH59	20															

NOTE : SINGLE VERTICAL LOCATED AT 38 METRES FOR 1986

DISCHARGE SYMBOL(S): B - ICE CONDITIONS
CONCENTRATION SYMBOL(S): C - COARSE MATERIAL PRESENT

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL M - A SEDIMENT MEASUREMENT VERTICAL
Z - A SEDIMENT MEASUREMENT VERTICAL NOT AT THE REGULAR MEASUREMENT CROSS-SECTION

CONTINUED

SOURIS RIVER AT WAWANESA - STATION NO. OSNG001 (CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
AUG 14	17:30	24.0	3.52	38.0	DH59	20	636														
AUG 18	17:00	20.0	2.05	38.0	DH59	21															
AUG 22	18:10	18.0	1.30	38.0	DH59	20	693														
AUG 24	18:00	19.0	1.10	38.0	DH59	18															
AUG 28	18:30	19.0	0.963	38.0	DH59	20	671														
SEP 01	18:30		0.827	38.0	DH59	15															
SEP 02	16:15	21.0	0.794	38.0	DH59	16															
SEP 07	18:30	20.0	0.628	38.0	DH59	19	717														
SEP 10	18:10	18.0	0.623	38.0	DH59	18															
SEP 14	18:00	14.0	0.646	38.0	DH59	20	728														
SEP 17	17:30	12.0	0.884	38.0	DH59	15															
SEP 21	15:00	13.0	0.971	38.0	DH59	18	678														
SEP 24	18:20	13.0	0.977	38.0	DH59	17															
SEP 28	14:10	14.5	1.15	38.0	DH59	15	655														
OCT 07	14:45	11.0	5.49	38.0	DH59	18	777														
OCT 10	14:30	10.0	5.04	38.0	DH59	11															
OCT 14	16:00	11.0	3.97	38.0	DH59	12	907														
OCT 19	17:30	10.0	5.75	38.0	DH59	11															
NOV 03	15:25	1.0	8.95	38.0	DH59	8	873														
DEC 08	11:50	1.0	0.880 B	MID X	DH48	39	1210														

NOTE : SINGLE VERTICAL LOCATED AT 38 METRES FOR 1986

DISCHARGE SYMBOL(S): B - ICE CONDITIONS
VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			SAMPLED CONCENTRATION MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)			SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY MEAN LOAD (TONNES)	SUMMARY HISTORICAL MEAN LOAD (TONNES)	SUMMARY STANDARD ERROR OF MEAN %
1980	---CCCCCCCCC	MANUAL	211	DEC 12		5	MAY 13		62.5	DEC 12		1 750	---	---	---
1981	CCCCCCCCCCCC	MANUAL	148	JAN 15		5	DEC 22		80.4	MAR 20		2 270	6.23	6.23	---
1982	CCCCCCCCCCCC	MANUAL	950	APR 15	*	5	JUL 26		9 520	APR 15	*	42 700	117	81.6	89.9
1983	CCCCCCCCCCCC	MANUAL	481	APR 08		8	JAN 26		4 950	APR 08		67 700	* 185	103	50.6
1984	CCCCCCCCCCCC	MANUAL	138	DEC 13		5	SEP 26		86.8	MAR 24		4 350	11.9	80.0	54.1
1985	CCCCCCCCCCCC	MANUAL	551	MAR 26		4	JUN 30	*	4 860	MAR 26		21 700	59.3	75.9	44.5
1986	CCCCCCCCCCCC	MANUAL	402	MAY 07		9	NOV 03		1 910	MAY 07		13 300	36.3	69.3	40.9

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH * - EXTREME FOR PERIOD OF RECORD

MANITOBA

SOURIS RIVER NEAR COULTER - STATION NO. 05NF016

SUSPENDED SEDIMENT FOR 1986

LOCATION: LAT 49 05 27 N LONG 100 57 12 W
DRAINAGE AREA: 43 200 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 4 630 TONNES FOR THE PERIOD JAN 01 TO DEC 31

REMARKS:

DAY	JAN DAILY DISCHARGE (m³/s)	JAN MEAN CONCENTRATION (mg/L)	JAN DAILY LOAD (t)	FEB DAILY DISCHARGE (m³/s)	FEB MEAN CONCENTRATION (mg/L)	FEB DAILY LOAD (t)	MAR DAILY DISCHARGE (m³/s)	MAR MEAN CONCENTRATION (mg/L)	MAR DAILY LOAD (t)	DAY
1	1.37 B	9	1.07	1.08 B	7	0.65	0.518 B	8	0.38	1
2	1.42 B	9	1.10	1.11 B	7	0.67	1.38 B	10	1.19	2
3	1.45 B	10	1.25	1.10 B	8	0.78	2.91 B	11	2.77	3
4	1.51 B	9	1.17	1.08 B	8	0.73	3.91 B	11	3.72	4
5	1.50 B	9	1.17	0.980 B	8	0.68	4.66 B	11	4.43	5
6	1.46 B	9	1.14	0.923 B	8	0.64	5.39 B	11	5.12	6
7	1.42 B	8	0.98	0.903 B	8	0.62	5.41 B	11	5.14	7
8	1.42 B	9	1.10	0.836 B	7	0.51	5.06 B	11	4.81	8
9	1.41 B	8	0.97	0.782 B	7	0.48	4.95 B	11	4.70	9
10	1.40 B	8	0.97	0.708 B	8	0.49	4.86 B	12	5.04	10
11	1.33 B	8	0.92	0.718 B	8	0.50	4.08 B	11	3.88	11
12	1.31 B	8	0.91	0.821 B	8	0.57	2.82 B	12	2.92	12
13	1.23 B	8 S	0.85	0.892 B	8	0.62	2.96 B	12	3.07	13
14	1.21 B	8	0.84	0.913 B	8	0.63	2.85 B	12	2.85	14
15	1.18 B	7	0.71	0.983 B	8	0.68	2.07 B	13	2.33	15
16	1.20 B	7	0.73	1.05 B	7	0.64	1.55 B	20	2.68	16
17	1.21 B	8	0.84	1.11 B	8	0.77	0.894 B	43	3.54	17
18	1.18 B	8	0.82	1.04 B	8	0.72	0.582 B	51 S	2.56	18
19	1.15 B	7	0.70	0.985 B	8	0.68	0.346 B	49	1.46	19
20	1.11 B	8	0.77	0.854 B	8	0.69	0.180 B	44	0.68	20
21	1.04 B	8	0.72	0.861 B	8	0.60	0.193 B	46	0.77	21
22	0.976 B	7	0.59	0.748 B	8	0.52	0.341 B	44	1.30	22
23	0.921 B	7	0.56	0.669 B	8	0.46	0.177 B	36	0.55	23
24	0.919 B	7	0.56	0.780 B	8	0.54	0.124 B	29	0.31	24
25	0.962 B	7	0.58	0.804 B	8	0.62	0.185 B	28 S	0.41	25
26	0.921 B	7	0.56	0.927 B	8	0.64	0.362 B	32	1.00	26
27	0.883 B	6	0.46	0.635 B	8	0.44	0.503 B	31	1.35	27
28	0.970 B	6	0.50	0.376 B	8	0.26	0.418 B	29	1.05	28
29	0.893 B	7	0.60				0.277 B	30	0.72	29
30	1.04 B	7	0.63				0.374 B	29	0.94	30
31	1.05 B	7	0.64				1.32 B	36	4.11	31
TOTAL	37.145		25.41	24.832		18.76	81.694		75.86	TOTAL

DAY	APR DAILY DISCHARGE (m³/s)	APR MEAN CONCENTRATION (mg/L)	APR DAILY LOAD (t)	MAY DAILY DISCHARGE (m³/s)	MAY MEAN CONCENTRATION (mg/L)	MAY DAILY LOAD (t)	JUN DAILY DISCHARGE (m³/s)	JUN MEAN CONCENTRATION (mg/L)	JUN DAILY LOAD (t)	DAY
1	9.20	70 S	55.6	18.7	31 S	50.1	13.0	5	5.62	1
2	11.7	85 S	85.9	18.8	24	39.2	12.9	5	5.57	2
3	12.1	53 S	55.4	19.1	21	34.7	11.8	12 S	12.3	3
4	12.5	42 S	45.4	16.9	19	27.7	7.60	18	11.7	4
5	11.1	70 S	67.1	16.4	114 S	162	3.19	16 S	4.96	5
6	10.0	59 S	51.0	19.2	68 S	114	1.89	15	2.58	6
7	9.43	95 S	77.4	19.3	19 S	31.7	3.25	11	3.09	7
8	9.85	71 S	80.4	18.1	33 S	51.6	3.99	10 S	3.45	8
9	9.63	74 S	61.8	15.5	64	81.0	4.18	8	2.89	9
10	9.35	77 S	62.2	19.0	40 S	65.7	4.11	7 S	2.49	10
11	8.74	102 S	77.0	18.7	29	46.8	4.88	7	2.95	11
12	9.45	117 S	95.5	18.4	20 S	31.8	4.83	7	2.80	12
13	8.87	118 S	90.4	16.0	15	20.7	3.71	8	2.56	13
14	10.9	137	129	13.5	14 S	16.3	2.70	8	1.87	14
15	14.2	152	186	14.2	16 S	19.6	2.54	8	1.76	15
16	13.5	146	170	14.5	12	15.0	2.79	11	2.65	16
17	13.4	126 S	146	15.9	8 S	11.0	2.79	13 S	3.13	17
18	14.8	87 S	111	17.3	5	13.5	3.11	14	3.78	18
19	15.5	82	83.0	18.6	11 S	17.7	3.44	14	4.16	19
20	15.2	63 S	89.6	19.2	15	24.9	3.78	12	3.92	20
21	16.9	81 S	118	18.6	28 S	45.0	4.27	9	3.32	21
22	17.6	104 S	157	17.8	20	30.8	4.42	5	1.91	22
23	17.5	133 S	201	17.2	12 S	17.8	4.55	4 S	1.57	23
24	18.0	85 S	140	17.1	11 S	16.3	4.60	5	1.99	24
25	19.4	56	93.9	17.1	10	14.8	3.35	8	1.74	25
26	18.9	54 S	88.2	17.0	11	16.2	3.01	8	1.56	26
27	19.0	48	78.8	16.8	11 S	16.0	3.12	7	1.89	27
28	19.0	40 S	65.7	16.6	11 S	15.8	2.82	7	1.77	28
29	19.1	36	59.4	16.3	11	15.8	2.57	7	1.55	29
30	18.6	55 S	88.4	16.1	10 S	13.9	2.30	7	1.39	30
31				14.0	8	7.28				31
TOTAL	414.32		2 869.9	536.0		1 094.48	135.50		102.90	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

SOURIS RIVER NEAR COULTER - STATION NO. 05NF015

SUSPENDED SEDIMENT FOR 1986

DAY	JUL DAILY DISCHARGE (m^3/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	AUG DAILY DISCHARGE (m^3/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	SEP DAILY DISCHARGE (m^3/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	DAY
1	2.07	8	1.43	1.24	12	1.29	0.727	23	1.44	1
2	1.98	8	1.37	1.42	10 S	1.23	0.795	22	1.51	2
3	1.89	8	1.31	1.56	9	1.21	0.787	22	1.46	3
4	1.95	9	1.52	1.38	9	1.07	0.773	21	1.40	4
5	1.91	9 S	1.49	1.27	9	0.99	0.782	21	1.42	5
6	1.80	10	1.56	2.03	10	1.75	0.775	21	1.41	6
7	1.68	10	1.45	2.69	11 S	2.56	0.785	20	1.36	7
8	1.12	10	0.97	3.13	11	2.97	0.781	20	1.37	8
9	0.633	10	0.55	3.24	10	2.80	0.734	19	1.20	9
10	0.400	10	0.35	2.55	10	2.20	0.701	18 S	1.15	10
11	0.447	11 S	0.42	1.34	10	1.16	0.730	18	1.14	11
12	0.722	11	0.69	1.12	18 S	1.55	0.843	18	1.00	12
13	0.914	12	0.95	1.02	18	1.53	0.701	19	1.15	13
14	0.995	12	1.03	0.578	17	0.85	0.686	19	1.13	14
15	0.984	13 S	1.11	0.365	16	0.50	0.704	20	1.22	15
16	0.889	13	1.01	0.539	15 S	0.70	0.703	21	1.28	16
17	1.10	12	1.14	0.663	14	0.80	0.654	23 S	1.30	17
18	1.16	10	1.00	0.731	13 S	0.82	0.641	22	1.22	18
19	1.08	8 S	0.75	0.710	13	0.80	0.483	20	0.83	19
20	1.10	8	0.76	0.857	14	0.78	0.606	20	1.05	20
21	1.11	9	0.86	0.859	14 S	1.04	0.686	18	1.04	21
22	1.10	10	0.95	0.735	14	0.89	0.741	18	1.02	22
23	1.06	11	1.01	0.810	15	1.05	3.16	23 S	6.28	23
24	0.998	12 S	1.03	0.763	16	1.05	4.38	31	11.7	24
25	1.02	13	1.15	0.714	17	1.05	5.14	29	12.9	25
26	0.930	14	1.12	0.764	18	1.18	4.89	24	9.73	26
27	0.853	14	1.03	0.727	20	1.26	4.80	20	8.29	27
28	1.00	16	1.38	0.767	23 S	1.52	4.88	20 S	8.43	28
29	0.984	20 S	1.67	0.758	24	1.57	4.82	20	8.33	29
30	1.00	18	1.56	0.787	24	1.63	5.14	20	8.83	30
31	1.14	15	1.48	0.859	24	1.37				31
TOTAL	36.019		34.10	36.572		41.25	52.599		101.84	TOTAL

DAY	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	NOV DAILY DISCHARGE (m^3/s)	NOV MEAN CONCENTRATION (mg/L)	NOV DAILY LOAD (t)	DEC DAILY DISCHARGE (m^3/s)	DEC MEAN CONCENTRATION (mg/L)	DEC DAILY LOAD (t)	DAY
1	5.35	20 S	9.24	5.29	10	5.43	0.530 B	10	0.46	1
2	5.45	20	9.42	4.16	9	3.23	0.555 B	10	0.48	2
3	5.78	20	9.99	2.70	10	2.33	0.540 B	9	0.42	3
4	5.63	20	9.73	2.68	13 S	3.01	0.526 B	9	0.41	4
5	5.45	18 S	8.48	2.71	13	3.04	0.538 B	10	0.46	5
6	4.58	14	5.54	2.60	12	2.70	0.552 B	10	0.48	6
7	3.83	13	4.30	1.93 B	12	2.00	0.585 B	10	0.51	7
8	3.73	13	4.19	1.55 B	16	2.14	0.589 B	10 S	0.51	8
9	3.85	13	4.32	1.38 B	18	2.27	0.570 B	10	0.49	9
10	3.85	18 S	5.88	1.59 B	19	2.61	0.618 B	10	0.53	10
11	4.71	21	8.55	1.77 B	19	2.91	0.691 B	10	0.60	11
12	5.56	22	10.6	1.84 B	18	2.86	0.678 B	10	0.59	12
13	5.75	22	10.9	1.42 B	18	2.21	0.703 B	10	0.61	13
14	5.65	20	9.78	1.04 B	17	1.53	0.735 B	9	0.57	14
15	5.03	18 S	9.38	0.838 B	16	1.16	0.767 B	9	0.59	15
16	5.00	16	8.29	0.600 B	14	0.73	0.782 B	9	0.59	16
17	5.12	13	5.87	0.471 B	11	0.45	0.759 B	9	0.59	17
18	5.08	12	5.20	0.366 B	10	0.32	0.734 B	8	0.51	18
19	5.02	12	5.14	0.296 B	9	0.23	0.726 B	9	0.56	19
20	5.09	12	5.31	0.249 B	10	0.22	0.725 B	8	0.50	20
21	5.18	11	5.87	0.226 B	12	0.23	0.751 B	8	0.52	21
22	5.91	10 S	5.11	0.426 B	12	0.44	0.795 B	8	0.55	22
23	5.16	10	5.32	0.573 B	11	0.54	0.826 B	8	0.57	23
24	5.23	10	5.38	0.606 B	11	0.58	0.837 B	7	0.51	24
25	5.31	9	4.91	0.605 B	11	0.57	0.824 B	7	0.50	25
26	5.21	9 S	4.83	0.573 B	11	0.54	0.822 B	7	0.50	26
27	5.29	9	4.89	0.562 B	10	0.49	0.843 B	7	0.51	27
28	5.06	9	4.71	0.551 B	10	0.48	0.856 B	7	0.52	28
29	5.04	9 S	4.70	0.525 B	9	0.41	0.884 B	6	0.45	29
30	5.39	9	4.97	0.515 B	10	0.44	0.832 B	6	0.43	30
31	5.85	9	4.63				0.827 B	6	0.43	31
TOTAL	172.84		209.21	41.642		46.10	21.950		15.95	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

SOURIS RIVER NEAR COULTER - STATION NO. 05NF016

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)		SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 13	15:00	0.5	1.16	B	MID	X	DH48	8	1220														
MAR 18	16:28	0.5	0.569	B	10RB	X	DH48	52	349														
MAR 25	15:20	0.5	0.188		MID	X	DH48	28	277														
APR 01	16:35	9.0	1.81		4.0	M	DH48	70	552														
APR 01	16:42	9.0	2.05		8.0	M	DH48	76	559														
APR 01	16:50	9.0	2.30		12.0	M	DH48	73	538														
APR 01	16:58	9.0	2.48		16.0	M	DH48	87	544														
APR 01	17:03	9.0	2.29		22.0	M	DH48	95	545														
APR 01	17:30	9.0	11.1		MID		DH59	77	545														
APR 02	10:57	7.0	11.8		MID		DH59	88															
APR 03	16:00	5.0	12.3		MID		DH59	48															
APR 04	17:00	7.0	12.5		MID		DH59	44															
APR 05	11:20	7.5	11.0		MID		DH59	75															
APR 06	11:30	11.0	10.2		MID		DH59	44															
APR 06	19:30	11.0	9.80		MID		DH59	74															
APR 07	18:15	9.5	8.95		MID		DH59	98															
APR 08	19:45	10.0	9.75		MID		DH59	61	428														
APR 09	19:30	11.0	9.43		MID		DH59	88															
APR 10	19:30	13.0	9.25		MID		DH59	67	424														
APR 11	17:30	4.0	8.29		MID		DH59	118															
APR 12	17:00	6.0	9.19		MID		DH59	116															
APR 13	17:30E	3.0	8.74		MID		DH59	119															
APR 17	16:00	6.0	13.3		MID		DH59	119	414														
APR 18	19:00	4.5	15.3		MID		DH59	76															
APR 20	17:30	6.0	15.1		MID		DH59	51															
APR 21	17:12	7.5	3.48		18.5	M	DH59	73	395														
APR 21	17:18	7.5	3.71		23.0	M	DH59	86	393														
APR 21	17:25	7.5	3.24		27.5	M	DH59	102	387														
APR 21	17:30	7.5	3.07		30.5	M	DH59	111	389														
APR 21	17:36	7.5	3.83		34.8	M	DH59	138	396														
APR 21	17:51	7.5	[illegible]		MID		DH59	94	384														
APR 21	20:00	8.0	[illegible]		MID		DH59	98															
APR 22	19:00	10.5	[illegible]		MID		DH59	105															
APR 23	17:30	10.0	17.5		MID		DH59	140															
APR 24	17:45	10.0	19.3		MID		DH59	63															
APR 26	17:00	9.5	18.8		MID		DH59	53															
APR 28	19:30	10.5	19.1		MID		DH59	38	456														
APR 30	17:15	12.5	18.1		MID		DH59	162															
MAY 01	20:00	10.5	18.9		MID		DH59	25															
MAY 05	20:30	9.0	17.9		MID		DH59	186															
MAY 06	19:00	8.0	19.8		MID		DH59	31	515														
MAY 07	11:40	8.0	19.4		MID		DH59	17															
MAY 08	18:30	9.0	17.2		MID		DH59	49															
MAY 10	17:30	13.0	18.4		MID		DH59	37															
MAY 12	17:45	15.0	18.5		MID		DH59	18															
MAY 14	19:30	14.0	19.5		MID		DH59	14															
MAY 15	19:45	12.0	20.3		MID		DH59	16	579														
MAY 17	19:45	12.0	19.8		MID		DH59	8															
MAY 19	19:30	14.0	19.6		MID		DH59	12															
MAY 21	20:00	14.0	18.0		MID		DH59	34	627														
MAY 23	20:30	13.0	16.9		MID		DH59	13															
MAY 24	19:15	16.0	16.8		MID		DH59	10															
MAY 27	19:30	21.0	16.5		MID		DH59	11															
MAY 28	20:30	23.0	16.2		MID		DH59	11	693														
MAY 30	20:00	25.0	15.5		MID		DH59	8															
JUN 03	20:30	18.0	11.8		MID		DH59	17															
JUN 05	17:30	17.0	2.39		MID		DH59	18	770														
JUN 08	07:30	15.0	3.89		MID		DH59	11	752														
JUN 08	07:31	15.0	3.89		MID		DH59	9	734														
JUN 10	11:05	18.5	3.98		MID		DH59	7	744														
JUN 10	11:06	18.5	3.98		MID		DH59	6	745														
JUN 17	21:00	19.5	2.85		MID		DH59	12	779														
JUN 17	21:01	19.5	2.85		MID		DH59	15	751														
JUN 23	19:40	23.0	4.63		MID		DH59	8	781														
JUN 23	19:41	23.0	4.63		MID		DH59	2	803														
JUL 05	20:15	21.0	1.80		MID		DH59	14	746														
JUL 05	20:16	21.0	1.80		MID		DH59	5	735														
JUL 11	20:00	20.0	0.545		MID		DH59	16	718														
JUL 11	20:01	20.0	0.545		MID		DH59	6	721														
JUL 16	13:30	23.0	0.869		MID		DH59	13	720														
JUL 19	20:15	22.0	1.05		MID		DH59	7															
JUL 24	20:00	22.5	0.997		MID		DH59	13	711														
JUL 29	20:30	23.5	0.868		MID		DH59	20															
AUG 02	18:30	25.0	1.50		MID		DH59	9															
AUG 07	19:50	24.0	2.84		MID		DH59	11	780														
AUG 12	19:45	22.0	1.12		MID		DH59	18															
AUG 16	20:00	21.0	0.587		MID		DH59	14	844														
AUG 18	15:00	23.0	0.768		MID		DH59	13															
AUG 21	17:30	22.0	0.943		MID		DH59	14	841														
AUG 28	19:30	21.0	0.782		MID		DH59	24	913														
SEP 10	19:45	18.0	0.704		MID		DH59	19	830														
SEP 17	17:00	11.0	0.628		MID		DH59	24	897														
SEP 17	17:01	11.0	0.628		MID		DH59	21															
SEP 23	12:30	12.5	3.55		MID		DH59	23	930														
SEP 28	11:00	13.0	4.83		MID		DH59	20															
OCT 01	18:00	10.0	5.35		MID		DH59	20	977														
OCT 05	17:30	12.0	5.84		MID		DH59	17															
OCT 10	18:00	10.0	3.73		MID		DH59	20	880														
OCT 15	18:00	11.0	6.03		MID		DH59	18															
OCT 22	17:00	11.0	5.76		MID		DH59	10	938														
OCT 26	16:45	9.5	6.21		MID		DH59	9															
OCT 28	17:45	8.0	8.02		MID		DH59	9	898														
NOV 04	10:30	1.0	2.89		MID	X	DH48	13	922														
DEC 08	14:40	0.5	0.607	B	MID	X	DH48	10	1240														

NOTE SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1986

TIME SYMBOL: E - ESTIMATED
DISCHARGE SYMBOL(S): B - ICE CONDITIONS
VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL M - A SEDIMENT MEASUREMENT VERTICAL

SOURIS RIVER NEAR COULTER - STATION NO. 05NF016

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			SAMPLED CONCENTRATION MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)			SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY MAR-OCT MEAN LOAD (TONNES)	SUMMARY MAR-OCT HISTORICAL MEAN LOAD (TONNES)	SUMMARY MAR-OCT STANDARD ERROR OF MEAN %
1977	--CCCCCCCCCC	MANUAL	102	APR	14	12	SEP	05	11.7	MAR	14	425	1.60	1.60	---
1978	CCCCCCCCCCCC	MANUAL	90	APR	17	10	JUL	31	173	APR	17	3 920	15.5	8.55	81.3
1979	CCCCCCCCCCCC	MANUAL	174	JAN	23	9	JUN	08	614	MAY	25 *	22 200 *	87.7	34.9	76.5
1980	CCCCCCCCCCCC	MANUAL	401	MAR	20	8	JUN	04	183	APR	10	6 895	19.5	31.1	61.9
1981	CCCCCCCCCCCC	MANUAL	274	FEB	18	6	DEC	08	88.7	FEB	21	2 890	7.40	26.3	59.5
1982	CCCCCCCCCCCC	MANUAL	244	SEP	08	5	JUL	29	314	APR	24	8 880	33.3	27.5	46.7
1983	CCCCCCCCCCCC	MANUAL	229	NOV	03	4	MAY	07	211	OCT	23	10 400	35.5	28.6	38.1
1984	CCCCCCCCCCCC	MANUAL	496	APR	26 *	7	AUG	07	156	MAY	01	4 330	15.3	27.0	35.5
1985	CCCCCCCCCCCC	MANUAL	218	OCT	31	11	DEC	09	169	MAR	30	6 170	24.3	26.7	31.7
1986	CCCCCCCCCCCC	MANUAL	186	MAY	05	2	JUN	23 *	201	APR	23	4 630	18.5	25.8	29.4

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH

* - EXTREME FOR PERIOD OF RECORD

MANITOBA

SOURIS RIVER NEAR LAUDER - STATION NO. 05NG025

SUSPENDED SEDIMENT FOR 1986

LOCATION: LAT 49 24 00 N LONG 100 45 37 W
DRAINAGE AREA: 51 700 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 8 580 TONNES FOR THE PERIOD MAR 01 TO OCT 31

REMARKS:

DAY	MAR DAILY DISCHARGE (m³/s)	MAR MEAN CONCENTRATION (mg/L)	MAR DAILY LOAD (t)	APR DAILY DISCHARGE (m³/s)	APR MEAN CONCENTRATION (mg/L)	APR DAILY LOAD (t)	MAY DAILY DISCHARGE (m³/s)	MAY MEAN CONCENTRATION (mg/L)	MAY DAILY LOAD (t)	DAY
1	0.846 B	14	1.02	10.4	27 S	24.3	20.0	35 S	60.5	1
2	0.569 B	14	0.69	13.1	45 S	50.9	19.5	42 S	70.8	2
3	0.803 B	14	0.97	16.3	51 S	71.8	19.7	40 S	68.1	3
4	1.84 B	14	2.23	16.3	47 S	66.2	20.0	37 S	63.9	4
5	5.13 B	14	6.21	16.2	45 S	63.0	20.4	39	68.7	5
6	10.1 B	14	12.2	15.9	46 S	63.2	21.7	38 S	71.2	6
7	10.0 B	14	12.1	15.0	47 S	60.9	22.1	60 S	115	7
8	10.9 B	14	13.2	14.0	46 S	55.6	22.8	59 S	117	8
9	11.1 B	14	13.4	13.7	67 S	79.3	23.8	50 S	103	9
10	11.1 B	14	13.4	13.7	88 S	104	24.9	43 S	92.5	10
11	9.93 B	14	12.0	13.4	55 S	63.7	25.0	46 S	99.4	11
12	11.1 B	14	13.4	12.6	39 S	42.5	24.7	53 S	113	12
13	8.60 B	14	10.4	11.9	36 S	37.0	25.0	52 S	112	13
14	8.33 B	14	10.1	11.3	37 S	36.1	25.7	49 S	109	14
15	9.34 B	14	11.3	8.86	33 S	25.3	26.8	49 S	113	15
16	12.1 B	14	14.6	9.15	37 S	29.3	27.8	40 S	96.1	16
17	7.21 B	14	8.72	12.6	41 S	44.6	28.3	37 S	90.5	17
18	7.75 B	14	9.37	15.6	36 S	48.5	28.4	43 S	106	18
19	9.80 B	14 S	11.9	16.8	45 S	65.3	28.5	42 S	103	19
20	15.0 B	14	18.1	17.2	62 S	92.1	28.1	41 S	99.5	20
21	14.0 B	14	18.9	17.2	64 S	95.1	26.8	41 S	94.9	21
22	13.2 B	14	18.0	18.1	58 S	90.7	26.4	41 S	90.0	22
23	12.3 B	14	14.9	19.1	51	84.2	24.1	39 S	81.2	23
24	11.5 B	14	13.9	19.1	45 S	74.3	22.9	39	77.2	24
25	10.7 B	14	12.9	19.6	47 S	79.2	22.0	40 S	76.0	25
26	10.1 B	14 S	12.2	20.3	44 S	77.2	21.4	47 S	86.9	26
27	9.99 B	13	11.2	20.4	38 S	67.0	21.0	49 S	88.9	27
28	10.1 B	14	12.2	20.2	35 S	61.1	20.5	55 S	97.4	28
29	10.4 B	17	15.3	20.1	32 S	55.6	20.1	64 S	111	29
30	10.6 B	26 S	22.9	20.2	37 S	64.6	19.6	63 S	107	30
31	10.6 A	28 S	25.6				19.1	68 S	112	31
TOTAL	285.038		369.31	468.21		1 872.6	726.3		2 894.7	TOTAL

DAY	JUN DAILY DISCHARGE (m³/s)	JUN MEAN CONCENTRATION (mg/L)	JUN DAILY LOAD (t)	JUL DAILY DISCHARGE (m³/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	AUG DAILY DISCHARGE (m³/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	DAY
1	17.8	71 S	109	1.63	22	3.10	2.71	24 S	5.62	1
2	16.1	67 S	93.2	1.63	22	2.91	3.42	29	8.57	2
3	15.3	69 S	91.2	1.42	21	2.58	4.22	28	10.2	3
4	14.5	70	87.7	1.35	20	2.33	4.45	27 S	10.4	4
5	12.8	68	74.0	1.48	21	2.65	4.09	25	8.83	5
6	9.46	66	53.9	1.24	21	2.25	3.59	23	7.13	6
7	6.84	63 S	36.1	1.13	20	1.95	3.30	21 S	5.99	7
8	5.30	59	27.0	1.11	20	1.92	3.46	22	6.56	8
9	5.41	56	25.7	1.15	21 S	2.09	3.74	24	7.76	9
10	4.83	56 S	22.4	1.13	22	2.15	3.78	26	8.49	10
11	4.10	60 S	21.3	1.05	24	2.18	3.57	27 S	8.33	11
12	4.61	60	23.9	0.971	25 S	2.10	2.86	27	6.81	12
13	4.25	57	20.9	0.950	19	1.56	2.32	27	5.41	13
14	4.39	53 S	20.1	0.819	13 S	0.92	2.02	26	4.54	14
15	4.27	48	17.7	0.586	12	0.62	1.82	26	4.09	15
16	4.10	45	15.9	0.841	12	0.85	1.37	27 S	3.20	16
17	3.92	44 S	14.9	1.51	17	2.22	1.10	27	2.57	17
18	1.46	44	5.55	2.27	22	4.31	1.08	28	2.61	18
19	2.71	43	10.1	2.12	22	4.03	1.16	28 S	2.71	19
20	3.43	43 S	12.7	2.05	23 S	4.07	1.10	27 S	2.57	20
21	3.23	44	12.3	2.45	24	5.08	1.03	25	2.22	21
22	3.09	45	12.0	2.82	27	6.56	0.922	25 S	1.99	22
23	3.00	50 S	13.0	3.45	29 S	8.64	0.926	25	2.00	23
24	2.99	45	11.6	3.80	25	8.52	0.976	32	2.70	24
25	2.94	35	8.89	3.90	28	9.43	0.947	44 S	3.60	25
26	2.70	28 S	6.07	4.04	28	9.77	0.895	38	2.94	26
27	2.29	22	4.35	3.54	28	8.58	0.855	30 S	2.22	27
28	1.83	21	3.50	3.65	29 S	9.15	0.848	26	1.80	28
29	1.70	22	3.23	3.17	28	7.67	0.775	25	1.68	29
30	1.64	22	3.12	2.78	25	6.00	0.748	24 S	1.55	30
31				2.55	23	5.07	0.698	23	1.39	31
TOTAL	170.49		661.31	62.277		132.07	64.884		146.80	TOTAL

A - MANUAL GAUGE B - ICE CONDITIONS S - SAMPLE(S) COLLECTED THIS DAY

SOURIS RIVER NEAR LAUDER - STATION NO. 05NG025

SUSPENDED SEDIMENT FOR 1986

DAY	SEP DAILY DISCHARGE (m^3/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	0.680	24	1.41	4.95	19	8.13				1
2	0.699	25 S	1.51	5.15	20 S	8.90				2
3	0.684	25	1.43	5.14	20	8.88				3
4	0.585	24	1.21	5.21	18	8.10				4
5	0.596	22	1.13	5.13	17	7.53				5
6	0.594	21 S	1.08	4.90	18 S	8.77				6
7	0.606	18	0.89	4.24	15	5.50				7
8	0.617	19	1.01	3.73	15	4.83				8
9	0.650	19 S	1.07	3.57	14 S	4.32				9
10	0.639	18	1.05	3.42	13	3.84				10
11	0.672	20	1.16	3.54	12 S	3.87				11
12	0.663	20	1.15	4.28	12	4.44				12
13	0.641	20	1.11	4.84	12	5.12				13
14	0.603	21 S	1.09	5.23	13	5.87				14
15	0.593	21	1.08	5.44	13	6.11				15
16	0.631	21	1.14	5.70	13 S	6.40				16
17	0.725	20 S	1.25	5.85	14	7.08				17
18	0.738	21 S	1.34	5.83	15	7.56				18
19	0.724	20	1.25	5.74	16 S	7.93				19
20	0.721	19	1.18	5.74	17	8.43				20
21	0.748	18 S	1.18	5.76	17	8.49				21
22	0.880	19	1.08	5.76	18	8.98				22
23	0.588	21	1.06	5.68	19 S	9.32				23
24	0.750	22 S	1.43	5.74	19	9.42				24
25	3.09	21	5.61	5.81	19	9.54				25
26	4.42	19	7.26	5.83	20 S	10.1				26
27	4.70	18	7.31	5.80	19	9.52				27
28	4.61	18	7.17	5.86	19	9.62				28
29	4.67	17 S	6.86	5.72	18	8.90				29
30	4.84	18	7.22	5.82	17	8.55				30
31				5.77	17	8.47				31
TOTAL	41.813		69.80	161.30		230.30				TOTAL

S - SAMPLE(S) COLLECTED THIS DAY

SOURIS RIVER NEAR LAUDER - STATION NO. 05NG025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)		SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER		INSTANT CONCENT. (mg/L)		DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 19	15:00	0.5	5.22	B	MID		DH48		14		372														
MAR 26	17:50	0.5	9.47	B	13.0	X	DH48		14		297														
MAR 30	16:30	3.0	10.7		MID		DH59		26																
MAR 31	10:46	2.0	10.6		MID		DH59		28		277														
MAR 31	17:45	3.5	10.5		MID		DH59		29																
APR 01	10:10	4.0	10.2		MID		DH59		24																
APR 02	10:15	5.0	12.7		MID		DH59		45																
APR 02	15:55	5.5	2.88		6.0	X	DH59		48		435														
APR 02	16:00	5.5	1.95		13.5	X	DH59		49		426														
APR 02	16:05	5.5	2.80		18.0	X	DH59		50		435														
APR 02	16:11	5.5	2.75		22.5	X	DH59		50		431														
APR 02	16:15	5.5	3.19		30.0	X	DH59		51		426														
APR 03	18:00	2.0	16.6		MID		DH59		51																
APR 04	17:50	3.0	16.2		MID		DH59		45																
APR 05	16:30	3.0	16.2		MID		DH59		45																
APR 06	12:30	9.5	16.0		MID		DH59		46																
APR 07	16:40	9.5	14.8		MID		DH59		47																
APR 08	18:45	10.0	13.7		MID		DH59		45																
APR 09	17:40	12.0	13.7		MID		DH59		149	C	395														
APR 10	17:55	12.0	13.7		MID		DH59		88																
APR 11	17:45	3.0	13.4		MID		DH59		45																
APR 12	14:45	3.0	12.5		MID		DH59		39																
APR 13	13:30	4.5	11.9		MID		DH59		36																
APR 14	17:30	2.5	11.2		MID		DH59		38																
APR 15	19:30	4.0	7.88		MID		DH59		30		382														
APR 16	17:45	5.0	10.1		MID		DH59		40																
APR 17	16:25	6.0	13.2		MID		DH59		41																
APR 18	17:30	6.0	16.2		MID		DH59		35																
APR 19	11:50	6.0	16.8		MID		DH59		44																
APR 20	18:35	6.0	17.2		MID		DH59		85		384														
APR 21	17:05	8.0	17.2		MID		DH59		63																
APR 22	17:05	10.0	18.4		MID		DH59		57		375														
APR 24	17:05	10.0	19.0		WERB	X	DIP		44																
APR 25	17:15	11.0	19.7		WERB	X	DIP		47																
APR 26	16:55	9.5	20.4		WERB	X	DIP		44																
APR 27	16:35	9.0	20.3		WERB	X	DIP		38																
APR 28	16:40	10.0	20.2		WERB	X	DIP		35																
APR 29	16:05	11.5	20.1		WERB	X	DIP		30																
APR 30	15:40	10.0	20.3		WERB	X	DIP		40																
MAY 01	16:20	12.0	19.9		WERB	X	DIP		33																
MAY 02	17:00	9.5	19.5		WERB	X	DIP		43																
MAY 03	18:00	14.5	19.8		WERB	X	DIP		36																
MAY 04	13:00	16.0	20.1		WERB	X	DIP		38																
MAY 06	18:00	11.0	21.8		WERB	X	DIP		38																
MAY 07	16:05	10.5	22.2		WERB	X	DIP		69																
MAY 08	14:48	8.0	22.8		MID		DH59		57		452														
MAY 09	14:05	9.5	24.1		MID		DH59		50																
MAY 10	14:15	11.5	25.0		MID		DH59		42																
MAY 11	13:30	13.0	25.1		MID		DH59		47		491														
MAY 12	16:20	14.0	24.7		MID		DH59		54																
MAY 13	16:05	16.0	25.1		MID		DH59		51																
MAY 14	15:50	15.0	25.9		MID		DH59		49																
MAY 15	16:00	14.0	27.0		MID		DH59		50																
MAY 16	16:30	14.0	28.0		MID		DH59		38																
MAY 17	20:30	13.0	28.3		MID		DH59		37																
MAY 18	12:30	14.0	28.4		MID		DH59		45		524														
MAY 19	18:10	15.0	28.4		MID		DH59		40																
MAY 20	15:30	17.0	28.0		MID		DH59		41																
MAY 21	16:15	16.0	26.6		MID		DH59		41																
MAY 22	16:00	17.0	25.2		MID		DH59		41																
MAY 23	14:25	16.0	24.0		MID		DH59		39																
MAY 25	15:40	20.0	21.9		MID		DH59		40		644														
MAY 26	15:45	20.0	21.4		MID		DH59		48																
MAY 27	15:35	21.0	20.9		MID		DH59		49																
MAY 28	18:30	22.5	20.4		MID		DH59		58																
MAY 29	17:35	25.0	20.0		MID		DH59		85																
MAY 30	16:25	25.0	19.6		MID		DH59		62																
MAY 31	15:45	24.0	18.9		MID		DH59		71																
JUN 01	16:05	23.0	17.5		MID		DH59		70		690														
JUN 02	17:35	23.0	15.8		MID		DH59		67																
JUN 03	19:35	20.0	15.1		MID		DH59		70																
JUN 10	17:30	19.5	4.02		MID		DH59		56		684														
JUN 11	09:45	19.0	3.98		MID		DH59		61																
JUN 14	15:15	19.5	4.40		MID		DH59		52																
JUN 17	18:05	22.0	3.78		MID		DH59		44		727														
JUN 20	14:35	23.0	3.46		MID		DH59		43																
JUN 23	16:30	22.5	2.88		MID		DH59		51		687														
JUN 26	17:45	25.0	2.63		MID		DH59		24																
JUL 09	17:45	24.0	1.17		MID		DH59		21		748														
JUL 12	14:30	20.0	0.985		MID		DH59		25																
JUL 14	14:10	24.0	0.803		MID		DH59		12		720														
JUL 20	17:05	23.0	3.11		MID		DH59		23		685														
JUL 23	19:25	25.5	3.56		MID		DH59		28																
JUL 28	19:10	24.0	3.56		MID		DH59		29		532														
AUG 01	16:20	21.0	2.78		MID		DH59		25																
AUG 04	20:40	24.0	4.38		MID		DH59		28		562														
AUG 07	16:30	25.0	3.29		MID		DH59		21																
AUG 11	16:25	23.5	3.56		MID		DH59		27		671														
AUG 16	14:20	21.5	1.32		MID		DH59		27																
AUG 19	18:30	25.5	1.18		MID		DH59		28		676														
AUG 20	15:40	21.0	1.08		MID		DH59		26																
AUG 22	19:40	20.0	0.910		MID		DH59		25																
AUG 25	17:45	17.0	0.936		MID		DH59		48		698														
AUG 27	19:50	12.0	0.851		MID		DH59		28																
AUG 30	18:05	23.0	0.762		MID		DH59		23																
SEP 02	19:15	16.0	0.704		MID		DH59		25		654														
SEP 06	18:20	19.0	0.593		MID		DH59		20																
SEP 09	18:45	19.0	0.647		MID		DH59		19		675														
SEP 14	17:50	19.0	0.589		MID		DH59		21																
SEP 17	18:30	11.5	0.746		MID		DH59		16		767														
SEP 17	18:45	11.5	0.747		MID		DH59		20																
SEP 18	09:00	11.0	0.746		MID		DH59		21																

NOTE - SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1986

DISCHARGE SYMBOL(S) B - ICE CONDITIONS
CONCENTRATION SYMBOL(S) C - COARSE MATERIAL PRESENT

VERTICAL SYMBOL(S) X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

CONTINUED

SOURIS RIVER NEAR LAUDER - STATION NO. 05NG025 (CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1985

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
SEP 21	18:15	12.0	0.728	MID	DH59	18															
SEP 24	08:25	12.0	0.571	MID	DH59	22	837														
SEP 29	18:35	13.0	4.68	MID	DH59	17															
OCT 02	16:25	11.0	5.14	MID	DH59	20	921														
OCT 06	16:15	11.0	4.83	MID	DH59	16															
OCT 09	16:20	10.0	3.56	MID	DH59	14	1020														
OCT 11	12:30	7.0	3.52	MID	DH59	12															
OCT 16	16:15	11.0	5.73	MID	DH59	13	1000														
OCT 19	14:30	8.0	5.73	MID	DH59	16															
OCT 23	07:15	9.0	5.67	MID	DH59	19	984														
OCT 26	13:10	8.5	5.83	MID	DH59	20															
NOV 05	10:30	2.0	3.42	MID	DH59	14	909														
DEC 09	08:30	0.5		MID	DH48	14	1140														

NOTE - SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1986

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY MAR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1983	--CCCCCCCCP-	MANUAL	80	APR 26	11	AUG 01	536	APR 26 *	15 500 *	63.2	63.2	---
1984	-PCCCCCCCC--	MANUAL	282	MAY 07 *	12	FEB 29	184	JUN 08	7 130	29.1	46.2	36.8
1985	--CCCCCCCC--	MANUAL	222	APR 14	8	JUN 26 *	280	MAR 28	5 370	21.9	38.1	33.4
1986	--CCCCCCCCPP	MANUAL	149	APR 09	12	JUL 14	117	MAY 08	6 580	26.8	35.3	26.7

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SOURIS RIVER NEAR MINTO - STATION NO. 05NG025

LOCATION LAT N LONG W
DRAINAGE AREA km²
TYPE OF FLOW REGULATED
TYPE OF GAUGE MANUAL

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	PERCENT SILT	PERCENT CLAY
MAR 14	14:10	1.0		MID	DH59	35	484														
MAR 16	11:20	0.5		MID	DH59	27	441														
MAR 19	17:40	0.5		MID	DH59	31															
MAR 22	09:50	0.5		MID	DH59	52															
MAR 23	17:05	0.5		MID	DH59	80															
MAR 24	10:30	0.5		MID	DH59	35															
MAR 25	14:05	0.5		MID	DH59	38	289														
MAR 26	12:45	0.5		MID	DH59	34															
MAR 27	16:45	0.5		MID	DH59	73															
MAR 28	18:40	1.0		MID	DH59	64															
MAR 30	17:50	3.0		MID	DH59	30															
MAR 31	19:10	3.5		MID	DH59	32															
APR 01	11:37	2.5		MID	DH59	35															
APR 02	09:50	2.5		MID	DH59	38															
APR 04	17:40	5.0		MID	DH59	33	318														
APR 06	17:45	9.5		MID	DH59	36															
APR 07	14:15	9.5		MID	DH59	36															
APR 09	14:10	11.0		MID	DH59	32															
APR 11	17:55	8.0		MID	DH59	27	435														
APR 13	17:20	4.0		MID	DH59	24															
APR 15	17:35	5.0		MID	DH59	28															
APR 17	18:55	6.5		MID	DH59	24															
APR 19	19:35	7.5		MID	DH59	47	439														
APR 21	10:30	6.0		MID	DH59	34															
APR 21	17:55	8.0		MID	DH59	28															
APR 24	14:10	11.5		MID	DH59	44															
APR 26	17:20	9.0		MID	DH59	35	404														
APR 28	16:40	10.0		MID	DH59	40															
APR 30	18:45	11.0		MID	DH59	35															
MAY 02	18:00	11.5		MID	DH59	33	449														
MAY 04	19:55	15.0		MID	DH59	34															
MAY 06	17:10	8.5		MID	DH59	303	480	40	53	71	82	89	93	96	99	100			7	40	53
MAY 07	20:05	8.0		MID	DH59	124															
MAY 10	20:12	12.0		MID	DH59	58															
MAY 12	09:55	11.5		MID	DH59	49															
MAY 14	11:20	14.5		MID	DH59	41	527														
MAY 15	06:00	12.0		MID	DH59	45															
MAY 17	20:30	14.0		MID	DH59	41															
MAY 19	20:40	15.0		MID	DH59	41															
MAY 21	11:10	16.0		MID	DH59	37															
MAY 23	08:12	14.5		MID	DH59	34	550														
MAY 25	11:35	17.5		MID	DH59	28															
MAY 27	08:05	18.5		MID	DH59	28															
MAY 29	07:55	20.5		MID	DH59	26															
MAY 31	08:00	22.0		MID	DH59	29	658														
JUN 02	08:00	18.0		MID	DH59	35															
JUN 04	07:40	18.5		MID	DH59	34															
JUN 06	07:50	18.5		MID	DH59	38	696														
JUN 09	07:10	17.5		MID	DH59	25															
JUN 11	19:10	22.5		MID	DH59	15	726														
JUN 12	12:30	18.0		MID	DH59	23															
JUN 15	18:00	15.0		MID	DH59	19															
JUN 19	12:55	25.0		MID	DH59	21	720														
JUN 22	09:40	21.5		MID	DH59	21															
JUN 26	11:05	26.0		MID	DH59	19	746														
JUN 29	20:30	20.5		MID	DH59	17															
JUL 02	20:20	24.0		MID	DH59	13	762														
JUL 05	11:30	21.5		MID	DH59	15															
JUL 09	20:15	24.5		MID	DH59	7	769														
JUL 13	16:00	23.0		MID	DH59	10															
JUL 14	09:15	21.0		MID	DH59	8															
JUL 17	20:35	23.5		MID	DH59	11	740														
JUL 21	14:35	25.0		MID	DH59	14															
JUL 24	11:50	24.5		MID	DH59	12	675														
JUL 28	18:40	25.5		MID	DH59	15															
JUL 31	20:15	22.5		MID	DH59	14	678														
AUG 03	20:05	25.5		MID	DH59	9															
AUG 06	19:25	24.0		MID	DH59	19	592														
AUG 09	11:10	22.5		MID	DH59	18															
AUG 12	09:35	23.0		MID	DH59	22	586														
AUG 15	10:15	21.0		MID	DH59	20															
AUG 18	09:15	21.5		MID	DH59	21															
AUG 21	11:48	18.0		MID	DH59	19	594														
AUG 24	10:30	19.0		MID	DH59	20															
AUG 28	17:30	20.5		MID	DH59	14	627														
AUG 31	09:25	19.5		MID	DH59	15															
SEP 03	09:55	17.0		MID	DH59	16															
SEP 07	19:15	16.0		MID	DH59	9	649														
SEP 10	18:45	13.5		MID	DH59	12															
SEP 14	16:05	11.5		MID	DH59	14	685														
SEP 15	10:50	9.5		MID	DH59	14															
SEP 15	11:00	9.5		MID	DH59	14															
SEP 18	11:20	11.0		MID	DH59	16															
SEP 22	10:20	10.0		MID	DH59	17	704														
SEP 26	18:40	14.0		MID	DH59	9															
SEP 30	16:12	13.5		MID	DH59	13	630														
OCT 03	17:25	8.5		MID	DH59	15															
OCT 07	16:55	10.5		MID	DH59	15	877														
OCT 11	17:35	6.0		MID	DH59	12															
OCT 15	10:55	4.5		MID	DH59	13	916														
OCT 19	10:25	7.5		MID	DH59	17															
OCT 22	11:15	9.0		MID	DH59	20	840														
OCT 26	09:05	6.0		MID	DH59	19															
OCT 30	13:20	3.5		MID	DH59	13	956														

NOTE - SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1986

CONTINUED

SOURIS RIVER NEAR MINTO - STATION NO. 05NG026 (CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT DISCHARGE (m^3/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT CONCENT (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
DEC 08	12:10	0.5		MID	DH59	6	1160														

NOTE - SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1986

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY MAR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1983	--CCCCCCCC--	MANUAL	260	APR 08	8	JUL 07	---	---	---	---	---	---
1984	--CCCCCCCC--	MANUAL	51	JUN 10	5	MAR 01 *	---	---	---	---	---	---
1985	--CCCCCCCCP-	MANUAL	175	APR 02	8	JUL 10	---	---	---	---	---	---
1986	--CCCCCCCC-P	MANUAL	303	MAY 06 *	6	DEC 08	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MANITOBA

VALLEY RIVER NEAR DAUPHIN - STATION NO. 05LJ010

SUSPENDED SEDIMENT FOR 1986

LOCATION: LAT 51 18 45 N LONG 100 00 39 W
DRAINAGE AREA: 2 870 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 17 300 TONNES FOR THE PERIOD MAR 01 TO OCT 31

REMARKS:

	MAR			APR			MAY			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	0.512 B	7	0.31	101 B	274 S	2 380	10.8	16 S	14.9	1
2	0.509 B	7	0.31	101 B	177 S	1 540	10.9	17 S	16.0	2
3	0.522 B	7	0.32	93.2 B	162 S	1 300	11.9	20 S	20.6	3
4	0.533 B	7	0.32	69.1	160 S	955	12.2	14 S	14.8	4
5	0.528 B	7	0.32	42.3	161 S	662	15.4	130 S	173	5
6	0.528 B	7	0.32	35.4	163 S	499	46.0	372 S	1 540	6
7	0.512 B	7	0.31	32.7	146 S	412	50.3	145 S	630	7
8	0.483 B	8	0.33	29.7	131 S	336	47.9	107 S	443	8
9	0.488 B	8	0.34	26.7	95 S	219	40.6	91 S	319	9
10	0.491 B	8	0.34	23.1	76 S	152	41.4	78 S	279	10
11	0.493 B	8	0.34	20.3	67 S	100.0	41.3	91 S	325	11
12	0.488 B	8	0.34	18.1	46 S	71.9	39.4	81 S	276	12
13	0.477 B	8	0.33	15.5	32 S	42.9	32.4	157 S	487	13
14	0.471 B	8	0.33	10.9 B	32 S	30.1	26.8	105 S	243	14
15	0.474 B	8	0.33	8.78 B	33 S	25.0	22.2	96 S	184	15
16	0.493 B	8	0.34	8.80 B	38 S	29.2	19.0	83 S	103	16
17	0.509 B	8	0.35	9.14 B	34 S	26.8	17.7	52	79.5	17
18	0.524 B	8	0.36	11.3 B	44 S	43.0	15.8	46	62.0	18
19	0.542 B	8	0.37	15.5	60 S	67.0	15.4	42	55.5	19
20	0.536 B	8	0.37	16.0	60 S	69.1	16.8	40 S	58.1	20
21	0.544 B	8	0.38	14.7	35 S	44.5	16.1	38	52.8	21
22	1.05 B	9	0.82	13.1	29 S	32.8	15.2	37	48.6	22
23	2.51 B	12	2.60	12.3	32 S	34.0	14.2	37	45.4	23
24	3.29 B	15	4.26	12.6	28 S	30.5	13.3	36	41.4	24
25	3.87 B	16	5.35	12.1	26 S	27.2	12.2	37	39.0	25
26	2.85 B	14	3.21	13.4	30 S	34.7	11.4	36	35.5	26
27	2.35 B	10	2.03	11.8	30 S	30.8	10.5	36	32.7	27
28	5.97 B	24 S	12.4	11.5	22 S	21.8	9.69	33	27.6	28
29	36.5 B	70 S	221	11.0	21 S	20.0	8.87	30	23.3	29
30	59.3 B	78 S	400	11.1	23 S	22.1	8.30	29	20.8	30
31	93.1 B	177 S	1 420				7.79	29	19.5	31
TOTAL	221.249		2 078.73	812.32		5 268.5	663.85		5 690.5	TOTAL

	JUN			JUL			AUG			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	7.18	28	17.3	2.84	4	0.91	2.05	5	0.89	1
2	6.86	27	15.5	2.58	4	0.89	2.09	5	0.90	2
3	6.11	27	14.3	2.45	3	0.84	2.09	5	0.90	3
4	5.85	27	13.2	2.36	3	0.81	2.28	5 S	0.98	4
5	5.46	26 S	12.3	2.63	3	0.68	2.06	5	0.89	5
6	5.28	24	10.9	2.84	4	0.98	2.01	5	0.87	6
7	5.07	19	8.32	2.78	5	1.20	2.13	5	0.92	7
8	5.18	16 S	8.68	3.14	7	1.90	2.08	8 S	1.08	8
9	4.96	13	5.57	3.08	9	2.40	1.98	7	1.19	9
10	4.68	13	5.26	3.05	11	2.90	2.28	9	1.77	10
11	4.38	12	4.54	3.35	14	4.05	2.17	7	1.31	11
12	4.21	12	4.36	3.84	21	6.97	1.99	5	0.86	12
13	4.00	11	3.80	4.52	20	7.81	1.86	4 S	0.84	13
14	3.77	10	3.26	4.24	14	5.13	1.89	4	0.85	14
15	3.71	9 S	2.88	3.97	13	4.46	1.72	4	0.59	15
16	4.01	9	3.12	3.86	13	4.34	1.60	4	0.55	16
17	3.86	8	2.67	4.01	13 S	4.50	1.49	4 S	0.51	17
18	3.53	6	1.83	3.89	12	4.03	1.38	4	0.48	18
19	3.05	6	1.58	3.67	10	3.08	1.31	4	0.45	19
20	3.36	8	2.34	3.28	8	2.27	1.23	4 S	0.43	20
21	3.61	9	2.81	2.86	6	1.53	1.19	4	0.41	21
22	4.09	11 S	3.89	2.75	5 S	1.19	1.15	5	0.50	22
23	4.10	13	4.61	2.51	4	0.87	1.12	5	0.58	23
24	3.87	16	5.02	2.30	4	0.79	1.12	7 S	0.68	24
25	3.53	19	5.78	2.17	4	0.75	1.17	8	0.81	25
26	3.45	19 S	5.36	2.18	4	0.75	1.10	9	0.88	26
27	3.36	17	4.94	2.16	4	0.75	0.954	8	0.66	27
28	3.24	13	3.64	2.13	4	0.74	0.802	7	0.49	28
29	3.01	8	2.08	2.13	4	0.74	0.697	6	0.36	29
30	2.76	6 S	1.43	2.06	4	0.71	0.634	5	0.27	30
31				1.96	4 S	0.68	0.618	4	0.21	31
TOTAL	129.11		180.69	91.41		89.25	46.223		22.89	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

VALLEY RIVER NEAR DAUPHIN - STATION NO. 05LJ010

SUSPENDED SEDIMENT FOR 1986

	SEP			OCT						
DAY	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	0.583	4 S	0.20	0.581	5	0.25				1
2	0.566	4	0.20	0.602	4	0.21				2
3	0.556	4	0.19	0.635	3 S	0.18				3
4	0.545	4	0.19	0.613	3	0.18				4
5	0.516	4	0.18	0.629	3	0.18				5
6	0.478	4	0.17	0.641	3	0.17				6
7	0.422	4	0.15	0.644	3	0.17				7
8	0.444	4	0.15	0.657	3	0.17				8
9	0.466	4	0.18	0.686	3	0.17				9
10	0.463	4 S	0.16	0.654	3	0.17				10
11	0.433	4	0.15	0.659	3	0.17				11
12	0.405	5	0.17	0.654	3	0.17				12
13	0.404	5	0.17	0.639	2	0.11				13
14	0.400	6	0.21	0.603	2	0.10				14
15	0.402	8	0.21	0.605	2 S	0.10				15
16	0.413	7	0.25	0.651	2 S	0.11				16
17	0.414	7	0.25	0.628	2	0.11				17
18	0.403	8	0.28	0.642	3	0.17				18
19	0.381	8	0.27	0.642	3	0.17				19
20	0.387	9	0.30	0.639	3	0.17				20
21	0.398	9	0.31	0.635	3 S	0.16				21
22	0.417	9	0.32	0.631	3	0.16				22
23	0.432	8	0.30	0.630	3	0.16				23
24	0.427	7	0.26	0.628	3	0.16				24
25	0.423	5	0.18	0.625	3	0.16				25
26	0.411	4 S	0.14	0.621	3 S	0.16				26
27	0.549	4	0.19	0.619	3	0.16				27
28	0.527	5 S	0.23	0.611	3 S	0.16				28
29	0.540	5	0.23	0.602	3	0.16				29
30	0.553	5 S	0.24	0.600	3	0.16				30
31				0.594 B	3 S	0.15				31
TOTAL	13.789		6.41	19.478		4.92				TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

MANITOBA

VALLEY RIVER NEAR DAUPHIN - STATION NO. 05LJ010

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT DISCHARGE (m^3/s)		SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)		DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 28	10:00	2.0	3.25	B	28.4		DH59	12		275														
MAR 28	18:00	2.5	8.08	B	28.4		DH59	38																
MAR 29	05:30	1.0	34.1	B	28.4		DH59	71																
MAR 29	18:00	2.0	42.2	B	28.4		DH59	77																
MAR 30	10:00	1.0	55.2	B	28.4		DH59	54																
MAR 30	18:00	3.0	65.5	B	28.4		DH59	110																
MAR 31	09:00	2.0	86.6	B	28.4		DH59	107																
MAR 31	18:20	3.0	109	B	28.4		DH59	270		196	21	28	57	72	93	95	99	100			4	68	28
APR 01	13:00	3.0	102	B	28.4		DH59	258		193	31	35	58	65	84	91	97	100			9	56	35
APR 01	18:30	2.0	95.0	B	28.4		DH59	228																
APR 02	09:00	1.0	104	B	28.4		DH59	167																
APR 02	19:00	1.0	95.4	B	28.4		DH59	176																
APR 03	08:00	1.0	93.9	B	28.4		DH59	127																
APR 03	12:00	1.0	13.0	B	47.0	M	DH59	136		218														
APR 03	12:10	1.0	18.7	B	41.0	M	DH59	138		210														
APR 03	12:20	1.0	27.9	B	34.0	M	DH59	140		211														
APR 03	12:30	1.0	88.8	B	28.4		DH59	144		219														
APR 03	12:40	1.0	26.5	B	26.0	M	DH59	142		217														
APR 03	12:50	1.0	3.81	B	18.0	M	DH59	128		216														
APR 03	18:00	3.0	85.5	B	28.4		DH59	178																
APR 04	09:00	2.0	77.4		28.4		DH59	146																
APR 04	18:00	4.0	50.4		28.4		DH59	152																
APR 05	09:00	2.0	42.7		28.4		DH59	198		259	13	33	61	75	79	85	89	96	100		15	52	33
APR 05	19:00	3.0	37.4		28.4		DH59	152																
APR 06	09:00	2.0	36.5		28.4		DH59	169																
APR 06	19:00	3.5	34.4		28.4		DH59	159																
APR 07	09:00	3.0	33.4		28.4		DH59	142																
APR 07	18:00	5.0	31.8		28.4		DH59	150																
APR 08	09:00	4.0	30.2		28.4		DH59	130		304														
APR 08	18:00	7.0	29.1		28.4		DH59	130																
APR 09	09:00	5.0	27.2		28.4		DH59	100																
APR 09	20:00	8.0	25.6		28.4		DH59	78																
APR 10	09:00	7.0	23.5		28.4		DH59	80																
APR 10	19:00	10.0	22.4		28.4		DH59	70																
APR 11	09:00	4.0	20.2		28.4		DH59	65																
APR 11	18:00	3.0	20.0		28.4		DH59	47																
APR 12	09:00	3.0	18.4		28.4		DH59	49																
APR 12	18:00	3.0	17.5		28.4		DH59	47																
APR 13	09:00	1.0	16.0		28.4		DH59	33																
APR 13	18:00	1.0	14.9		28.4		DH59	31																
APR 14	17:00	1.0	10.9	W	28.4		DH59	35																
APR 15	18:00	4.0	8.78	W	28.4		DH59	35		379														
APR 16	09:00	2.0	8.90	W	28.4		DH59	39																
APR 16	18:00	5.0	8.90	W	28.4		DH59	38																
APR 17	09:00	4.0	8.14	W	28.4		DH59	36																
APR 17	18:00	6.0	9.14	W	28.4		DH59	36																
APR 18	09:00	5.0	11.3	W	28.4		DH59	38																
APR 18	18:00	6.0	11.3	W	28.4		DH59	54																
APR 19	10:00	6.0	15.3		28.4		DH59	45																
APR 19	18:00	7.0	15.9		28.4		DH59	53																
APR 20	08:00	4.0	18.2		28.4		DH59	57																
APR 20	18:00	6.0	15.7		28.4		DH59	36		427														
APR 21	08:00	5.0	15.0		28.4		DH59	36																
APR 21	17:00	8.0	14.3		28.4		DH59	35																
APR 22	07:30	7.0	13.3		28.4		DH59	32																
APR 23	08:00	7.0	12.4		28.4		DH59	26																
APR 23	18:00	8.0	12.2		28.4		DH59	37		428														
APR 24	08:00	7.0	12.9		28.4		DH59	26																
APR 24	17:00	10.0	12.3		28.4		DH59	25																
APR 25	08:00	8.0	12.0		28.4		DH59	31																
APR 25	17:00	11.0	11.8		28.4		DH59	21																
APR 26	09:00	7.0	13.8		28.4		DH59	28																
APR 27	15:00	7.0	11.7		28.4		DH59	32																
APR 28	09:00	5.0	11.8		28.4		DH59	21																
APR 29	08:00	5.0	11.0		28.4		DH59	20																
APR 30	16:00	5.0	11.2		28.4		DH59	23		425														
MAY 01	12:00	7.0	10.8		28.4		DH59	15																
MAY 02	12:00	7.0	10.8		28.4		DH59	16																
MAY 03	12:00	10.0	11.9		28.4		DH59	22																
MAY 04	13:00	10.0	12.1		28.4		DH59	13																
MAY 05	13:00	7.0	12.4		28.4		DH59	79																
MAY 06	08:00	3.0	47.3		28.4		DH59	434		332	24	29	39	44	58	75	92	99	100		25	48	29
MAY 06	12:00	5.0	50.8		28.4		DH59	358		342	25	34	44	51	64	79	92	99	100		21	45	34
MAY 06	17:00	7.0	52.8		28.4		DH59	314		317	33	36	51	56	69	83	94	99	100		17	47	36
MAY 07	08:00	7.0	50.8		28.4		DH59	140																
MAY 07	17:00	10.0	47.8		28.4		DH59	119																
MAY 08	08:00	8.5	48.4		28.4		DH59	107																
MAY 08	15:00	11.0	48.2		28.4		DH59	107																
MAY 09	08:00	7.0	41.4		28.4		DH59	93																
MAY 09	17:00	9.0	38.4		28.4		DH59	86																
MAY 10	08:00	8.0	41.7		28.4		DH59	81																
MAY 10	18:00	9.0	41.7		28.4		DH59	74																
MAY 11	08:00	11.0	41.3		28.4		DH59	90	C															
MAY 12	08:00	11.5	40.3		28.4		DH59	81	C															
MAY 13	08:00	12.0	33.7		28.4		DH59	173	C															
MAY 14	08:00	13.0	27.8		28.4		DH59	102	C															
MAY 15	08:00	12.0	22.8		28.4		DH59	101	C	488														
MAY 16	08:00	11.0	19.0		28.4		DH59	61	C															
MAY 20	07:30	14.0	17.2		28.4		DH59	39																
JUN 05	19:00	16.0	5.40		28.4		DH59	28		383														
JUN 08	18:00	20.0	5.11		28.4		DH59	14																
JUN 15	17:00	15.0	3.73		28.4		DH59	9		380														
JUN 22	18:00	22.0	4.09		28.4		DH59	11		412														
JUN 26	20:00	24.0	3.37		28.4		DH59	19																
JUN 30	13:00	22.0	2.75		28.4		DH59	6		384														
JUL 17	19:45	22.0	4.04		28.4		DH59	13		383														
JUL 22	11:00	23.0	2.78		28.4		DH59	5																
JUL 31	10:00	18.0	1.97		28.4		DH59	4		318														
AUG 04	14:00	24.0	2.27		28.4		DH59	5																
AUG 08	08:00	20.0	2.12		28.4		DH59	6		278														
AUG 13	18:00	25.0	1.78		28.4		DH59	4																
AUG 17	11:30	18.0	1.61		28.4		DH59	4		274														

NOTE - SINGLE VERTICAL LOCATED AT 28.4 METRES FOR 1986

DISCHARGE SYMBOL(S): B - ICE CONDITIONS W - DAILY MEAN; ICE CONDITIONS
CONCENTRATION SYMBOL(S): C - COARSE MATERIAL PRESENT

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

CONTINUED

VALLEY RIVER NEAR DAUPHIN - STATION NO. 05LJ010 (CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
AUG 20	19:00	18.0	1.23	28.4	DH59	4															
AUG 24	12:00	18.0	1.15	28.4	DH59	7	279														
SEP 01	08:00	15.0	0.589	28.4	DH59	4	303														
SEP 10	08:00	11.0	0.466	28.4	DH59	4	310														
SEP 26	18:00	11.0	0.415	28.4	DH59	4	333														
SEP 28	09:00	12.0	0.527	28.4	DH59	5															
SEP 30	09:00	10.0	0.549	28.4	DH59	5															
OCT 03	15:00	8.0	0.611	28.4	DH59	3	358														
OCT 15	16:00	7.0	0.612	28.4	DH59	2	386														
OCT 18	10:00	6.0	0.614	28.4	DH59	2															
OCT 21	10:00	7.0	0.635	28.4	DH59	72 C	403														
OCT 26	12:00	8.0	0.621	28.4	DH59	3															
OCT 28	11:00		0.611	28.4	DH59	3	456														
OCT 31	11:00	2.0	0.598 B	28.4	DH59	3															
NOV 05	08:00	1.5		28.4	DH59	10	374														

NOTE : SINGLE VERTICAL LOCATED AT 28.4 METRES FOR 1986

DISCHARGE SYMBOL(S): B - ICE CONDITIONS
CONCENTRATION SYMBOL(S): C - COARSE MATERIAL PRESENT

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)			TOTAL FOR PERIOD (TONNES)	SUMMARY - MAR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1980	--CCCCCCCC--	MANUAL	204	APR 10		2	OCT 04		693	APR 10		4 200	17.2	17.2	---
1981	--CCCCCCCC--	MANUAL	357	JUL 04		3	OCT 29		1 210	JUL 04		2 150	8.76	13.0	32.5
1982	--CCCCCCCC--	MANUAL	72	APR 18		1	OCT 24	*	80.9	APR 18		483	1.97	9.31	47.3
1983	--CCCCCCCC--	MANUAL	780	APR 25		5	SEP 30		19 600	APR 25	*	45 200	* 184	53.0	32.8
1984	--CCCCCCCC--	MANUAL	208	JUN 26		3	OCT 30		529	JUN 26		4 170	17.0	45.8	75.7
1985	--CCCCCCCC--	MANUAL	1 080	APR 02	*	3	OCT 04		1 560	APR 12		8 990	36.7	44.3	64.0
1986	--CCCCCCCCP-	MANUAL	434	MAY 06		2	OCT 16		2 390	APR 01		17 300	70.7	48.0	50.5

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

STA. NO.	NAME	PAGE
05KJ001	SASKATCHEWAN RIVER AT THE PAS	40
05LJ010	VALLEY RIVER NEAR DAUPHIN	58
05LJ047	EDWARDS CREEK DRAIN BELOW JACKFISH CREEK	12
05MH005	ASSINIBOINE RIVER NEAR HOLLAND	8
05MJ001	ASSINIBOINE RIVER AT HEADINGLEY	4
05NF002	ANTLER RIVER NEAR MELITA	1
05NF016	SOURIS RIVER NEAR COULTER	48
05NG001	SOURIS RIVER AT WAWANESA	44
05NG025	SOURIS RIVER NEAR LAUDER	52
05NG026	SOURIS RIVER NEAR MINTO	56
05OB007	PEMBINA RIVER NEAR WINDYGATES	18
05OC001	RED RIVER AT EMERSON	22
05OD001	ROSEAU RIVER NEAR DOMINION CITY	36
05OD004	ROSEAU RIVER AT GARDENTON	33
05OJ010	RED RIVER NEAR LOCKPORT	27
05TG003	ODEI RIVER NEAR THOMPSON	15

NAME	STA. NO.	PAGE
ANTLER RIVER NEAR MELITA	05NF002	1
ASSINIBOINE RIVER AT HEADINGLEY	05MJ001	4
ASSINIBOINE RIVER NEAR HOLLAND	05MH005	8
EDWARDS CREEK DRAIN BELOW JACKFISH CREEK	05LJ047	12
ODEI RIVER NEAR THOMPSON	05TG003	15
PEMBINA RIVER NEAR WINDYGATES	05OB007	18
RED RIVER AT EMERSON	05OC001	22
RED RIVER NEAR LOCKPORT	05OJ010	27
ROSEAU RIVER AT GARDENTON	05OD004	33
ROSEAU RIVER NEAR DOMINION CITY	05OD001	36
SASKATCHEWAN RIVER AT THE PAS	05KJ001	40
SOURIS RIVER AT WAWANESA	05NG001	44
SOURIS RIVER NEAR CGULTER	05NF018	48
SOURIS RIVER NEAR LAUDER	05NG025	52
SOURIS RIVER NEAR MINTO	05NG026	56
VALLEY RIVER NEAR DAUPHIN	05LJ010	58